

CRPL-F 169 PART A

FOR OFFICIAL USE

# PART A

## IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS  
CENTRAL RADIO PROPAGATION LABORATORY  
BOULDER, COLORADO



IONOSPHERIC DATA

CONTENTS

	<u>Page</u>
Symbols, Terminology, Conventions . . . . .	ii
Predicted and Observed Sunspot Numbers. . . . .	v
World-Wide Sources of Ionospheric Data. . . . .	vi
Errata. . . . .	viii
Tables of Ionospheric Data. . . . .	1
Graphs of Ionospheric Data. . . . .	13
Index of Tables and Graphs of Ionospheric Data in CRPL-F169 (Part A). . . . .	49

## SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

- M    Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

- Z    (1) (qualifying letter) Measurement deduced from the third magnetoionic component.  
       (2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

- a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of  $f_oF_2$  (and  $f_oE$  near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of  $h'F$  (and  $h'E$  near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For  $f_oF_2$ , as equal to or less than  $f_oF_1$ .
2. For  $h'F_2$ , as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of  $fEs$  missing because of E or G are counted as equal to or less than the median  $f_oE$ , or equal to or less than the lower frequency limit of the recorder.

B for  $fEs$  is counted on the low side when there is a numerical value of a higher layer critical frequency; otherwise it is omitted from the median count.

S for  $fEs$  is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of  $fEs$  missing for any other reason, and values of  $h'Es$  missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D.C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If the count is four or less, the data are considered insufficient and no median value is computed.

2. For the F2 layer, h'F or foEs, if the count is from five to nine, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as the count is at least five, the median is not considered doubtful. A count of at least 5 is considered sufficient for an h'Es median.

3. For all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F1B.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

- a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.
- b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.
- c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.
- d. The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.





## WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:

Brisbane, Australia  
Canberra, Australia  
Hobart, Tasmania  
Townsville, Australia

Australian Department of Supply and Shipping, Bureau of Mineral Resources, Geology and Geophysics:  
Watheroo, Western Australia

Meteorological Service of the Belgian Congo and Ruanda-Urundi:  
Bunia, Belgian Congo  
Elisabethville, Belgian Congo  
Leopoldville, Belgian Congo

British Department of Scientific and Industrial Research, Radio Research Board:  
Falkland Is.  
Ibadan, Nigeria (University College of Ibadan)  
Slough, England

Defence Research Board, Canada:  
Churchill, Canada  
Victoria, Canada

Radio Wave Research Laboratories, National Taiwan University,  
Taipeh, Formosa, China:  
Formosa, China

Danish National Committee of URSI:  
Narsarssuak, Greenland

The Royal Netherlands Meteorological Institute:  
De Bilt, Holland  
Paramaribo, Surinam

Central Institute of Meteorology, Budapest, Hungary:  
Budapest, Hungary



Indian Council of Scientific and Industrial Research, Radio  
 Research Committee, New Delhi, India:  
   Bombay (All India Radio)  
   Delhi (All India Radio)  
   Tiruchy (All India Radio)

National Institute of Geophysics, City University, Rome, Italy:  
 Rome, Italy

Ministry of Postal Services, Radio Research Laboratories,  
 Tokyo, Japan:  
   Tokyo (Kokubunji), Japan

Christchurch Geophysical Observatory, New Zealand Department of  
 Scientific and Industrial Research:  
   Cape Hallett (Adare)  
   Rarotonga, Cook Is.  
   Scott Base

Manila Observatory:  
 Baguio, P. I.

Institute of Terrestrial Magnetism, Ionosphere and Radio  
 Propagation, Moscow, U.S.S.R.:  
 Moscow

South African Council for Scientific and Industrial Research:  
   Capetown, Union of South Africa  
   Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:  
   Kiruna, Sweden  
   Upsala, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzer-  
 land:  
   Schwarzenburg, Switzerland

United States Army Signal Corps:  
   Adak, Alaska  
   Fletchers Ice I.  
   Ft. Monmouth, New Jersey  
   Grand Bahama I.  
   Okinawa I.  
   St. John's, Newfoundland

National Bureau of Standards (Central Radio Propagation  
 Laboratory):  
   Anchorage, Alaska  
   Chiclayo, Peru

National Bureau of Standards (Central Radio Propagation Laboratory) continued:

Chimbote, Peru

Fairbanks (College), Alaska (Geophysical Institute of the University of Alaska)

Huancayo, Peru (Instituto Geofisico de Huancayo)

Maui, Hawaii

Panama Canal Zone

Point Barrow, Alaska

Puerto Rico, W. I.

San Francisco, California (Stanford University)

Washington, D. C.

## ERRATA

1. CRPL-F168(A), p. 4, table 20, and p. 22, fig. 40: Column heading "h'F" should read "h'F1" and the corresponding change should be made in curve label on the graph.
2. CRPL-F168(A), p. 34, fig. 85: The >5.9 reading on the foF2 curve occurred at 21 hour instead of 18 hour.

# TABLES OF IONOSPHERIC DATA

June 1958 - February 1957

Table 1

Washington, D. C. (38.7°N, 77.1°W)

June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.0	300					2.55
01		6.5	310					2.50
02		6.2	310					2.50
03		5.55	305					2.50
04		5.3	<310					2.55
05		5.5	290		117	1.80		2.72
06	(485)	6.0	250	---	111	2.58	3.0	2.72
07	390	6.15	230	4.6	109	3.12	3.4	2.52
08	460	6.7	220	5.1	107	3.50	3.8	2.52
09	515	6.9	210	5.3	105	3.75	4.0	2.42
10	470	6.9	210	5.5	103	3.90	4.1	2.48
11	480	6.9	200	5.6	102	4.00	4.3	2.45
12	520	7.1	205	5.6	103	4.00	>4.2	2.35
13	500	7.1	220	5.6	105	4.05		2.40
14	480	7.15	220	5.6	106	4.00		2.45
15	490	7.2	220	5.5	105	3.95	4.0	2.45
16	450	7.3	225	5.4	109	3.65		2.50
17	420	7.35	230	5.0	109	3.30		2.55
18	360	7.6	250	---	111	2.80		2.60
19	---	7.6	275		119	2.00		2.62
20		7.95	280					2.65
21		8.0	<290					2.60
22		7.7	295					2.60
23		7.35	300					2.60

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Point Barrow, Alaska (71.3°N, 156.8°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.3)	320		---	---	5.0	(2.55)
01	---	(6.2)	325	---	---	---	3.8	2.58
02	---	(6.05)	<325	---	---	---	3.2	2.50
03	---	(6.1)	305	---	119	2.02	2.8	2.55
04	(425)	6.4	295	---	115	2.22	2.6	2.45
05	445	6.05	275	4.0	114	2.52		2.42
06	460	6.3	265	4.2	111	2.90		2.40
07	500	6.45	250	4.4	111	3.05		2.35
08	500	6.8	250	4.8	108	3.22		2.30
09	500	6.6	250	5.0	107	(3.30)		2.35
10	480	6.85	240	5.1	105	3.45		2.35
11	510	6.8	230	5.0	111	(3.55)		2.35
12	520	6.6	235	5.0	111	3.60		2.30
13	545	6.7	240	5.1	113	3.52		2.35
14	500	6.85	230	5.1	114	3.45		2.35
15	500	6.8	235	5.0	111	3.35		2.35
16	475	6.8	(240)	4.8	109	3.20		2.30
17	475	6.7	245	4.8	109	3.08		2.40
18	445	6.3	(260)	4.5	111	3.00		2.45
19	(450)	6.2	270	4.1	113	2.80		2.50
20	---	5.95	290	---	114	2.72		2.60
21	---	6.0	315	---	114	2.90	3.1	2.60
22	---	5.9	300		131	2.40	2.9	2.70
23		>6.0	310		<133	(2.45)	3.8	2.52

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

Anchorage, Alaska (61.2°N, 149.9°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.2)					2.5	(2.40)
01		(5.4)					2.7	(2.40)
02		(5.4)					1.8	(2.45)
03		(5.65)					2.3	(2.40)
04		(6.0)		(3.6)	117	1.98		2.45
05		(6.6)		4.0	111	2.40		2.40
06		6.95		4.4	109	2.80		2.35
07		6.9		4.7	107	3.12		2.35
08		6.9		4.9	105	3.35		2.30
09		7.0		5.0	105	3.50		2.30
10		6.95		5.2	105	3.60		2.30
11		6.8		5.3	105	3.70		2.32
12		7.0		5.3	105	3.70		2.30
13		6.8		5.3	105	3.70		2.30
14		7.0		5.3	105	3.60		2.35
15		6.8		5.3	105	3.50		2.40
16		6.9		5.2	107	3.30		2.40
17		6.8		(4.8)	109	3.08		2.50
18		6.8		4.6	109	2.75	3.0	2.60
19		6.7		---	115	2.42	2.6	2.65
20		6.5			130	---	2.2	2.75
21		6.1			---	---	1.6	2.70
22		(5.0)			---	---	2.8	2.60
23		(4.8)					2.0	(2.42)

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Maui, Hawaii (20.8°N, 156.5°W)

June 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.8	300				2.4	2.60
01		8.5	290				3.0	2.70
02		7.85	280				2.2	2.70
03		7.45	<290					2.60
04		7.15	310					2.55
05		6.8	320					2.50
06	---	6.8	280	---	125	2.00	2.0	2.52
07	---	7.7	245	---	109	2.90	3.0	2.70
08	(475)	8.5	230	5.4	107	3.42	3.8	2.45
09	520	9.3	<230	6.2	107	3.80	4.4	2.25
10	450	9.9	215	6.3	107	4.00	4.4	2.28
11	440	10.7	215	6.2	111	4.10	4.4	2.35
12	430	11.25	220	6.3	<113	4.20		2.40
13	425	11.55	220	6.4	111	4.20		2.45
14	405	11.7	<225	6.2	109	4.20	4.4	2.50
15	395	12.25	225	6.0	109	4.00	4.4	2.55
16	370	12.6	225	6.0	109	3.70	4.2	2.60
17	340	12.1	240	---	109	3.35	4.0	2.68
18	335	11.45	255	---	115	2.65	4.0	2.65
19		11.8	<290	---	---	---	3.6	2.65
20		10.65	310				4.2	2.60
21		10.2	310				3.0	2.55
22		9.3	315				2.4	2.55
23		9.1	<315				1.8	2.60

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

Fairbanks, Alaska (64.9°N, 147.8°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		---					4.6	---
01		(6.1)					4.2	(2.55)
02		(6.0)					4.0	(2.50)
03		(6.1)			111	(2.20)	4.0	(2.50)
04		(6.6)			111	2.30	4.1	(2.48)
05		(7.0)		4.2	101	2.60	4.2	(2.48)
06		6.8		4.4	101	2.90	3.7	2.42
07		7.3		4.7	101	3.20		2.45
08		7.15		5.0	101	3.40		2.40
09		6.65		5.0	101	3.50		2.40
10		6.7		5.0	99	3.65		2.40
11		6.6		5.2	101	3.70		2.40
12		6.6		5.1	101	3.70		2.35
13		6.7		5.2	99	3.70		2.38
14		6.8		5.3	99	3.55		2.40
15		6.8		5.2	101	3.40		2.40
16		6.8		5.0	101	3.30		2.45
17		6.6		4.4	101	3.00		2.50
18		6.45		4.2	101	2.80	3.1	2.60
19		6.4		---	109	2.40	3.2	2.68
20		6.4			<123	(2.10)	3.2	2.72
21		6.3			---	---	3.7	2.68
22		(6.0)					3.7	(2.65)
23		(5.8)					4.0	(2.50)

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

Narsarsuaq, Greenland (61.2°N, 45.4°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.3)	350				3.3	(2.40)
01		(5.2)	360				2.6	(2.45)
02		(5.0)	395		---	---	>3.4	(2.40)
03	---	(4.65)	390	---	---	---	3.1	(2.50)
04	---	(4.0)	380	(3.3)	121	2.35	3.6	(2.45)
05	<600	(4.95)	300	3.8	108	2.72	3.8	2.52
06	550	5.4	270	4.3	105	(3.05)	3.3	2.50
07	575	5.8	265	4.7	103	3.30		2.45
08	550	6.15	245	4.9	105	3.50	5.0	2.48
09	540	6.5	230	5.1	104	3.60	4.3	2.45
10	540	6.8	235	5.4	105	3.70	4.0	2.40
11	500	7.1	225	5.5	103	3.78		2.45
12	500	7.15	220	5.6	101	3.70		2.40
13	495	7.1	225	5.4	101	(3.70)		2.40
14	475	7.15	225	5.2	101	3.60		2.40
15	480	7.1	230	5.3	101	3.55		2.42
16	460	6.9	240	5.0	103	3.30		2.45
17	460	6.7	250	4.8	105	3.20		2.50
18	480	6.5	270	4.5	107	(2.90)		2.50
19	(410)	6.1	280	(4.0)	111	(2.50)	3.2	2.55
20	<430	(6.0)	350	---	111	(2.35)	3.6	2.50
21		(5.9)	345		129	(2.20)	4.1	2.55
22		(5.65)	350		---	---	3.4	(2.50)
23		(5.5)	365				3.6	(2.45)

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 7

Adak, Alaska (51.9°N, 176.6°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.4	<320					2.45
01		6.1	<330					2.40
02		5.85	(330)					2.35
03	---	6.0	(350)		135	----		2.35
04	(490)	5.8	315		<132	----	1.8	2.30
05	485	6.85	280	4.0	111	2.30	2.6	2.40
06	480	7.8	250	4.4	105	2.88	3.2	2.40
07	475	8.2	240	4.9	101	3.20	3.8	2.35
08	440	8.3	230	5.1	101	3.50	4.4	2.40
09	445	8.4	(220)	5.5	101	3.75	4.5	2.40
10	470	8.2	<230	5.4	99	3.85	4.7	2.40
11	490	8.0	(220)	5.7	101	3.90	4.6	2.35
12	475	0.0	(225)	5.7	99	(3.95)	4.5	2.45
13	475	8.1	220	5.6	101	3.85	4.2	2.42
14	460	7.85	230	5.6	105	3.72	4.0	2.45
15	455	7.9	<235	5.5	105	3.62		2.50
16	(450)	7.8	240	4.9	109	3.40	3.6	2.55
17	(490)	7.9	<250	---	109	(3.02)	3.5	2.60
18	---	7.75	260	---	111	(2.60)	3.4	2.70
19		7.9	280		<127	----	2.8	2.75
20		7.8	280				2.8	2.70
21		7.7	(280)				2.7	2.60
22		7.3	(300)				2.4	2.50
23		7.0	(295)					2.50

Time: 180.0°W.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 9

Ft. Monmouth, New Jersey (40.4°N, 74.1°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.0	310					2.45
01		6.6	<315					2.40
02		6.3	320					2.45
03		6.0	315					2.55
04		5.6	<320					2.50
05	---	6.0	290		121	----		2.75
06	---	6.65	250	---	115	2.60		2.68
07	450	7.0	235	4.0	111	3.10	3.2	2.70
08	480	7.4	225	5.0	109	3.55	3.7	2.45
09	510	7.5	220	5.6	109	3.00		2.45
10	480	7.6	210	5.7	109	4.05		2.45
11	460	0.0	205	5.8	109	(4.00)		2.45
12	470	8.0	220	6.0	109	4.10		2.42
13	450	0.2	220	6.0	109	4.08		2.45
14	440	8.4	230	5.8	109	3.90		2.45
15	425	0.6	230	5.6	109	3.80		2.50
16	400	0.6	235	5.3	109	3.50		2.55
17	410	8.5	250	4.6	113	3.20		2.55
18	---	8.35	270		120	2.50		2.55
19		8.5	280					2.65
20		8.2	280					2.55
21		8.0	295					2.50
22		7.0	300					2.50
23		7.4	305					2.45

Time: 75.0°W.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 11

Okinawa I. (26.3°N, 127.8°E)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		14.8	295				3.2	2.75
01		14.1	280				3.3	2.85
02		12.2	260				2.9	2.85
03		9.8	250				2.9	2.80
04		0.7	260				>2.0	2.70
05		8.15	280				2.0	2.65
06		8.75	260		<136	2.10	2.4	2.75
07		9.85	240		113	2.90	3.4	2.95
08	---	10.2	235		111	(3.45)	5.0	2.00
09	---	10.5	230		110	3.80	5.8	2.55
10	---	11.6	230		109	(4.00)	6.1	2.45
11	400	12.6	235	---	109	(4.12)	6.5	2.45
12	410	13.45	230	---	109	(4.20)	5.4	2.50
13	400	14.5	235	(6.6)	109	(4.25)	5.0	2.50
14	390	14.8	235	6.7	111	4.20	4.8	2.55
15	400	14.2	235	---	111	4.00	4.8	2.55
16	385	14.4	235	(6.6)	111	3.80	4.2	2.55
17	365	14.2	250		111	3.35	4.3	2.60
18	<340	14.1	260		117	(2.75)	3.4	2.65
19		13.6	290				3.5	2.65
20		>13.2	315				3.7	2.55
21		>13.2	330				3.2	(2.50)
22		>13.2	325				3.1	2.55
23		>14.0	315				3.0	2.65

Time: 135.0°E.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 8

St. John's, Newfoundland (47.6°N, 52.7°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.4	320					2.42
01		6.2	320					2.42
02		5.65	325					2.45
03		5.4	310					2.50
04		5.45	300				131	2.70
05		5.8	260				119	2.50
06		6.4	240				111	3.00
07	(510)	6.8	240	5.0			109	3.30
08	500	7.0	230	5.4			106	3.60
09	490	7.4	220	5.6			105	3.80
10	470	7.6	215	5.9			105	(4.00)
11	495	8.0	220	6.0			105	(4.00)
12	490	7.9	220	6.1			107	4.00
13	450	8.3	220	6.0			105	4.00
14	430	8.6	230	5.8			105	3.80
15	405	8.7	230	5.6			107	3.60
16	430	8.8	240	5.0			111	3.30
17	---	8.9	250	---			111	3.00
18	---	9.0	275	---			119	2.40
19		8.7	290				---	2.50
20		8.3	285				---	2.55
21		7.9	290				---	2.50
22		7.4	300				---	2.50
23		7.0	320				---	2.50

Time: 60.0°W.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

Washington, D. C. (38.7°N, 77.1°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.3	310					2.45
01		6.8	315					2.45
02		6.6	310					2.45
03		6.3	310					2.45
04		5.9	310					2.50
05		6.1	300		(119)	1.70		2.65
06	---	6.9	260	---	115	2.40	3.1	2.70
07	(430)	7.2	240	4.8	109	3.00	3.3	2.65
08	490	7.4	220	5.0	109	3.35	3.6	2.55
09	480	7.4	220	5.5	109	3.65	>3.8	2.55
10	455	7.6	210	5.7	109	3.88	4.0	2.50
11	500	7.9	210	5.8	106	4.00	4.0	2.45
12	465	8.2	220	6.0	105	4.00		2.40
13	450	8.5	220	5.9	105	4.00		2.45
14	440	8.5	225	5.8	109	4.00		2.42
15	430	8.6	230	5.6	109	3.80	>3.9	2.45
16	435	8.8	235	5.4	109	3.55	3.6	2.50
17	450	8.6	245	4.9	109	3.15		2.55
18	(360)	8.5	260	---	115	2.50		2.55
19		8.3	<285	---	---	---		2.65
20		8.1	270					2.55
21		7.9	290					2.50
22		7.7	300					2.50
23		7.4	310					2.50

Time: 75.0°W.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 12

Puerto Rico, W. I. (18.5°N, 67.2°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.5	290					2.70
01		10.0	280					2.70
02		9.4	265					2.65
03		8.9	275					2.65
04		8.0	270					2.70
05		8.1	265				2.6	2.70
06		8.5	275				2.2	2.70
07	---	9.5	240		(112)	2.70		2.85
08	---	10.5	230		109	3.25	>3.4	2.75
09	---	11.3	220	---	109	3.62	3.0	2.70
10	---	11.85	220	---	109	3.90	4.2	2.60
11	370	12.3	220	6.4	109	(4.15)	4.4	2.55
12	380	12.8	220	---	111	(4.25)	4.5	2.55
13	370	12.9	220	6.6	111	4.30	4.6	2.55
14	380	12.9	225	6.8	111	(4.15)	4.6	2.55
15	375	12.4	230	---	111	4.00	4.6	2.55
16	(390)	12.0	230	---	109	3.70	4.4	2.55
17		11.7	250		111	(3.20)	4.0	2.55
18		11.5	260		(117)	(2.48)	3.8	2.55
19		10.9	275				3.2	2.55
20		10.8	(300)				2.1	2.50
21		11.0	310					2.55
22		11.0	310					2.55
23		11.0	295					2.60

Time: 60.0°W.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.



Table 13

Baguio, P. I. (16.4°N, 120.6°E)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		13.0	290					2.05
01		12.45	260					2.90
02		10.6	245					2.85
03		9.5	250					2.70
04		8.2	250				1.7	2.70
05		7.4	260				2.3	2.60
06		0.95	280		129	2.42	3.2	2.72
07		10.4	260		119	(3.00)	6.0	2.65
08		11.2	250		115	(3.60)	7.8	2.40
09		12.0	240		111	3.90	7.0	2.20
10		12.5	230		117	4.05	6.6	2.15
11	---	13.0	(230)		117	4.15	5.0	2.05
12	---	13.0	(230)	---	118	4.20	4.6	2.05
13	---	13.0	230	---	119	4.20	4.2	2.05
14	---	12.7	240	---	117	4.05		2.00
15	---	12.9	245	---	117	3.82	4.6	2.05
16	---	13.1	255		119	3.45	3.8	2.05
17		13.0	270		119	2.90	3.9	2.10
18		12.5	300		(141)	2.08	2.9	2.05
19		(12.0)	385				2.2	(2.05)
20		(12.0)	430					(2.05)
21		(12.0)	410				1.9	(2.15)
22		(12.5)	370				2.0	(2.35)
23		12.9	320				2.7	2.60

Time: 120.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 15

Huancayo, Peru (12.0°S, 75.3°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.6	225				3.2	2.95
01		8.25	225					3.00
02		7.65	230					3.00
03		6.5	230					3.00
04		5.9	235					3.00
05		5.4	240				3.1	3.00
06		6.15	275			1.40		2.82
07		9.75	255		121	2.55	6.0	2.95
08		12.15	240		113	3.20	7.8	2.80
09		13.0	230		111	3.65	8.4	2.55
10		13.0	220	---	(4.00)	9.0		2.30
11		12.6	215	---	---	9.0		2.25
12		12.3	210	---	---	9.0		2.15
13		11.05	210	---	---	9.0		2.15
14		11.9	205	---	---	8.8		2.10
15		11.45	220	---	---	8.4		2.10
16		11.2	245	---	(3.20)	8.0		2.10
17		10.7	270	---	(2.50)	7.0		2.20
18		10.4	325	---	(1.45)	3.8		2.20
19		9.2	360					2.15
20		8.8	340					2.25
21		8.65	270				3.2	2.50
22		8.55	240				3.2	2.72
23		8.5	230				3.5	2.85

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 17

Ft. Monmouth, New Jersey (40.4°N, 74.1°W)

April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.2	310					2.35
01		7.0	<330					2.35
02		6.8	<330					2.45
03		6.45	(310)					2.45
04		6.0	(305)					2.45
05		5.9	<310					2.55
06		7.0	260		<121	2.40		2.80
07		8.0	240		116	2.95		2.75
08	---	8.75	235		109	3.30	>3.1	2.65
09	530	9.6	225	5.3	109	3.60		2.55
10	525	10.0	220	5.6	109	3.90		2.50
11	530	10.6	220	5.8	109	4.00		2.45
12	510	10.8	230	5.8	109	4.00		2.40
13	510	10.6	230	5.8	109	4.00		2.40
14	490	10.75	230	5.6	109	3.90		2.40
15	490	10.4	240	5.5	111	3.70		2.40
16	(485)	10.4	240	5.4	111	3.40		2.45
17	---	10.1	250	---	116	2.88		2.50
18	---	10.0	270		(121)	2.50		2.55
19		9.7	270					2.55
20		9.1	265					2.55
21		8.6	<280					2.45
22		8.0	<295					2.45
23		7.65	<315					2.40

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14

Panama Canal Zone (9.4°N, 79.9°W)

May 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.3	290					2.55
01		10.0	280					2.60
02		9.9	280					2.62
03		9.55	270					2.72
04		8.35	250					2.75
05		7.25	250					2.50
06		7.45	295		<199	1.85	3.4	2.58
07		8.75	260		113	2.80	4.3	2.72
08		10.25	245		109	3.38	4.9	2.62
09		11.45	235		109	3.80	5.0	2.50
10		11.95	235		111	4.10	4.7	2.38
11	---	12.6	230		109	4.20	4.6	2.35
12	(425)	13.0	230		110	4.30	5.0	2.35
13	440	13.0	235	---	109	4.30	4.8	2.35
14	435	13.5	(235)	7.0	111	4.20	5.0	2.40
15	420	13.4	(235)	---	109	4.00	4.8	2.40
16	410	13.0	(250)	---	111	3.55	4.8	2.40
17	---	12.15	260		112	3.00	3.8	2.40
18	---	11.8	<285		125	2.35	3.3	2.40
19		11.3	325				3.5	2.45
20		11.25	330				2.4	2.40
21		11.6	320					2.48
22		11.4	295					2.60
23		10.95	290					2.65

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 16

Fletchers Ice I. (80.0°N, 113.0°W)\*

April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8	<300		115	1.90		2.45
01		6.8	290		115	1.70		2.50
02		6.7	290		119	1.65		2.50
03	---	6.5	295	---	119	1.60		2.50
04	---	6.4	290	---	119	1.70		2.50
05	---	6.8	290	---	119	1.90		2.50
06	---	6.8	290	---	115	2.05		2.58
07	---	7.0	275	---	115	2.30		2.50
08	(425)	6.2	270	4.0	110	2.45		2.50
09	(440)	6.35	265	4.0	109	2.55		2.60
10	505	6.4	<260	4.3	109	2.70		2.50
11	480	6.4	250	4.5	109	2.00		2.50
12	500	6.15	(250)	4.5	109	2.90		2.38
13	520	6.0	250	4.5	109	3.00		2.30
14	525	5.7	240	4.6	109	3.00		2.30
15	500	5.9	250	4.3	109	3.00		2.30
16	500	5.85	250	4.3	109	3.00		2.30
17	570	5.6	260	4.5	109	2.90		2.22
18	650	5.3	265	4.3	109	2.80		2.20
19	550	5.95	275	4.4	109	2.70		2.30
20	450	6.6	275	4.2	109	2.60		2.30
21	(450)	5.8	280	3.9	111	2.42		2.35
22	---	6.6	280	---	115	2.15		2.30
23	---	6.6	290	---	119	2.00		2.42

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

\*Preliminary estimated average position.

Table 18

Puerto Rico, W.I. (18.5°N, 67.2°W)

April 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.3	280					2.70
01		9.95	280					2.68
02		9.4	270					2.70
03		8.8	260					2.70
04		8.35	270					2.65
05		7.75	255					2.60
06		7.9	290					2.60
07		9.85	240		(117)	2.40		2.90
08		11.8	230		109	3.20		2.85
09		12.95	220		109	3.60		2.80
10		13.4	225		109	4.00		2.72
11	---	13.6	230	---	109	(4.15)	4.2	2.65
12	(390)	14.0	225	---	109	(4.25)	4.4	2.60
13	(410)	13.95	230	7.5	110	(4.25)	4.4	2.55
14	(400)	13.7	230	7.2	109	4.20	4.5	2.50
15	(395)	13.3	235	---	111	4.00	4.4	2.50
16	---	12.9	240		109	3.70	4.2	2.50
17		12.45	250		111	3.20	3.9	2.50
18		11.95	260		115	---	3.0	2.55
19		11.35	270				2.1	2.55
20		10.9	(280)					2.50
21		10.9	300					2.50
22		10.9	290					2.60
23		10.9	285					2.70

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 19

Huancayo, Peru (12.0°S, 75.3°W)							
April 1958							
Time	h <sup>1</sup> F2	foF2	h <sup>1</sup> F	foF1	h <sup>1</sup> E	foE	foEs (M3000)F2
00		9.7	230				4.5 2.75
01		9.55	230				4.1 2.85
02		8.55	245				4.0 2.80
03		8.1	250				2.85
04		7.65	240				3.4 2.90
05		6.95	235				3.02
06		7.6	260				2.85
07		11.2	255	121	2.70	4.6	2.95
08		13.6	240	117	3.35	7.0	2.80
09		15.0	230	113	(3.80)	8.4	2.55
10		15.5	225			9.0	2.35
11		15.2	220			9.0	2.15
12		14.2	220			9.0	2.10
13		14.05	215			9.0	2.10
14		13.5	210			(4.00) 9.0	2.10
15		13.5	220			(3.65) 8.8	2.05
16		13.2	250			(3.32) 8.3	2.05
17		12.55	265			(2.70) 7.5	2.05
18		11.5	320	(157)	1.60	4.7	2.05
19		9.65	415			E	2.00
20		9.5	370				2.15
21		9.5	295				2.42
22		9.3	250				3.2 2.60
23		9.5	235				4.5 2.70

Time: 75.0°W.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 21

Uppsala, Sweden (59.8°N, 17.6°E)							
March 1958							
Time	h <sup>1</sup> F2	foF2	h <sup>1</sup> F	foF1	h <sup>1</sup> E	foE	fEs (M3000)F2
00		4.1	345				2.2 2.4
01		4.1	350				2.6 2.3
02		4.3	340				3.1 2.3
03		3.6	340				3.0 2.4
04		4.0	315				2.7 2.4
05		4.2	300				3.1 2.5
06		5.1	270			1.55	3.1 2.7
07		6.2	250	120	2.30	3.3	2.8
08	(345)	7.2	245	(4.80) 115	2.65	3.6	2.8
09	390	8.1	240	5.10 110	3.00		2.8
10	340	9.0	240	5.30 110	3.20		2.7
11	340	9.6	240	5.50 110	3.30		2.7
12	315	10.5	240	5.35 110	3.30		2.7
13	320	10.7	240	5.60 110	3.25		2.7
14	(315)	11.1	240	5.25 110	3.20		2.7
15	---	10.8	240	---	110	3.00	2.7
16	---	10.4	240	---	115	2.65	2.8
17	---	9.8	240	---	125	2.30	2.8
18	---	9.3	240	---	---	1.50	2.8
19	---	7.6	240	---	---	E	2.7
20	---	6.4	260	---	---	---	2.6
21	---	4.9	270	---	---	---	2.5
22	---	4.5	320	---	---	---	2.4
23	---	(4.3)	340	---	---	---	2.2 2.4

Time: 15.0°E.  
Sweep: 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 23

Slough, England (51.5°N, 0.6°W)							
March 1958							
Time	h <sup>1</sup> F2	foF2	h <sup>1</sup> F	foF1	h <sup>1</sup> E	foE	foEs (M3000)F2
00		6.0	320				<1.3 2.30
01		5.5	310				<1.4 2.30
02		5.0	330				(1.2) 2.30
03		5.1	335				(1.3) 2.30
04		4.6	315				<1.4 2.40
05		4.1	300				<1.4 2.40
06		4.9	285		130	1.80	2.70
07		6.6	250		115	2.25	2.95
08		8.2	240		110	2.80	2.90
09	---	9.9	235	---	110	3.20	2.85
10	335	10.8	230	---	105	3.40	2.80
11	(365)	12.2	225	---	105	3.60	2.65
12	---	12.6	230	---	105	3.70	2.70
13	---	12.6	230	---	105	3.65	2.70
14	---	12.4	235	---	105	3.55	2.70
15	---	11.9	235	---	110	3.30	2.75
16	---	11.9	240	---	110	3.00	2.75
17	---	11.3	245	---	115	2.50	2.80
18	---	11.0	240	---	125	1.95	(2.75)
19	(10.0)	230	---	---	---	---	<1.6
20	---	8.7	230	---	---	---	<1.6
21	(7.6)	240	---	---	---	---	(2.40)
22	(6.9)	270	---	---	---	---	<1.6 2.35
23	---	6.5	305	---	---	---	<1.6 2.25

Time: 0.0°.  
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 20

Kiruna, Sweden (67.8°N, 20.3°E)							
March 1958							
Time	h <sup>1</sup> F2	foF2	h <sup>1</sup> F	foF1	h <sup>1</sup> E	foE	foEs (M3000)F2
00		6.0	(395)				4.0 2.4
01		(5.0)	(385)				4.8 (2.4)
02		6.2	(375)				4.0 (2.4)
03		5.5	(355)				3.5 2.4
04		5.0	(340)				2.5 2.4
05		5.2	295		---	---	2.5
06		5.8	(280)		---	---	2.6
07		6.0	285		---	---	2.6
08	---	6.7	(265)	---	---	---	2.7
09	---	7.3	260	---	---	---	2.65
10		8.8	250	---	---	2.8	2.6
11		9.6	255	---	---	2.9	2.6
12		9.2	250	---	---	3.0	2.6
13		9.6	255	---	---	3.0	2.6
14		10.0	250	---	---	---	2.7
15		8.6	260	---	---	---	2.65
16		7.2	270	---	---	2.0	2.8
17		6.6	275	---	---	---	2.65
18		6.0	310	---	---	---	2.6
19		6.0	(295)	---	---	---	3.8 2.4
20		5.5	340	---	---	---	4.3 2.5
21		6.0	350	---	---	---	3.8 2.4
22		(6.0)	365	---	---	---	5.0 2.4
23		5.6	(385)	---	---	---	5.0 (2.4)

Time: 15.0°E.  
Sweep: 0.8 Mc to 14.0 Mc in 30 seconds.

Table 22

Churchill, Canada (58.8°N, 94.2°W)							
March 1958							
Time	h <sup>1</sup> F2	foF2	h <sup>1</sup> F	foF1	h <sup>1</sup> E	foE	fEs (M3000)F2
00		6.0	310		---	---	4.8
01		6.2	300		---	1.3	4.4
02		5.4	320		---	2.3	3.6
03		5.2	320		---	2.0	4.4
04		4.8	330		120	2.0	4.4
05		4.7	360		130	2.0	4.1
06		4.6	360		130	2.3	3.8
07	---	5.4	320	---	120	2.9	4.3
08	---	5.8	290	---	120	3.2	4.1
09	---	6.4	280	---	110	3.2	4.0
10	(440)	6.8	280	4.6	115	3.4	3.9
11	(460)	7.2	260	4.8	115	3.3	(2.5)
12	410	8.2	250	5.0	120	3.3	2.4
13	400	9.4	250	5.0	120	3.3	2.5
14	400	10.0	250	4.9	120	3.2	2.5
15	400	9.4	260	4.6	120	3.1	---
16	(390)	7.6	270	4.2	120	2.9	---
17	---	7.2	290	---	120	2.6	(2.6)
18	---	7.0	310	---	120	2.8	---
19		6.0	310	---	---	2.0	4.4
20		5.7	320	---	130	2.2	3.8
21		5.8	320	---	120	2.2	5.0
22		5.6	330	---	125	2.4	4.0
23		5.9	320	---	---	---	4.8

Time: 90.0°W.  
Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 24

Schwarzenburg, Switzerland (46.8°N, 7.3°E)							
March 1958							
Time	h <sup>1</sup> F2	foF2	h <sup>1</sup> F1	foF1	h <sup>1</sup> E	foE	fEs (M3000)F2
00		300	6.9				2.8
01		310	6.7				2.7
02		310	6.2				2.7
03		330	5.7				2.7
04		320	5.3				2.7
05		310	5.3				2.7
06		300	5.1				2.9
07		260	6.3		120	2.2	3.3
08		240	8.4		100	2.6	3.4
09		230	9.5		100	3.0	3.3
10		220	11.5		100	3.3	3.2
11		220	12.4		100	3.5	3.1
12		220	13.2		100	3.6	3.1
13		220	13.2		100	3.7	3.0
14		220	12.8		100	3.6	3.0
15		230	12.4		100	3.5	3.0
16		240	12.0		100	3.2	3.0
17		240	11.6		100	2.8	3.2
18		230	9.5		110	2.3	3.2
19		230	9.0		---	---	(3.4)
20		230	8.8		---	---	3.2
21		240	8.2		---	---	3.0
22		260	7.4		---	---	2.9
23		290	7.0		---	---	2.8

Time: 15.0°E.  
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.



Table 25

Grand Bahama I. (26.6°N, 78.2°W) March 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs (M3000)F2
00		8.2	270				2.72
01		8.1	(270)				2.75
02		7.6	265				2.70
03		6.9	(270)				2.62
04		6.7	<275				2.65
05		6.75	(270)				2.60
06		7.1	<280				2.68
07		9.5	235		<121	(2.30)	3.05
08		11.8	230		109	3.00	3.00
09		13.15	220		109	3.45	2.90
10		13.7	220		109	3.75	2.88
11		14.15	215		109	3.95	2.70
12		14.1	220		106	4.00	2.70
13		14.0	225		107	(4.00)	2.70
14		13.9	230		109	4.00	2.65
15		13.7	230		111	(3.80)	3.8
16		13.35	235		111	3.50	3.5
17		12.9	240		112	2.95	3.2
18		12.3	240		(117)	----	2.3
19		11.5	230				2.00
20		10.0	240				2.75
21		9.3	260				2.70
22		8.8	270				2.70
23		8.5	(280)				2.70

Time: 75.0°W.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 27

Chiclayo, Peru (6.0°S, 79.8°W) March 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs (M3000)F2
00		10.9	235				4.4
01		10.25	240				5.0
02		9.6	250				2.6
03		9.0	240				3.3
04		8.05	230				3.2
05		7.3	245				1.8
06		6.35	250				3.00
07		9.9	265		127	2.50	3.00
08		12.95	250		120	3.28	2.90
09		14.45	<240		117	3.80	2.65
10	---	14.55	230		115	4.05	2.42
11		14.7	(230)		113	4.28	2.15
12		>13.95	(225)		115	4.42	2.10
13		>13.35	<225		115	----	2.12
14		>13.0	(230)		111	----	2.10
15		>13.0	<230		113	4.00	4.2
16		>12.85	240		111	3.60	>3.6
17		12.35	255		111	3.15	4.2
18		11.0	280		----	2.50	5.0
19		>11.4	350				2.5
20		(11.15)	410				2.05
21		(11.3)	340				2.0
22		11.4	255				3.7
23		11.1	230				3.8

Time: 75.0°W.  
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.  
Note: Around equinox, height scale was expanded.

Table 29

Hobart, Tasmania (42.9°S, 147.2°E) March 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs (M3000)F2
00		6.8	280				2.50
01		5.5	300				2.45
02		4.8	300				2.40
03		4.2	300				2.40
04		(4.0)	300				2.40
05		3.7	300				2.50
06		4.4	300		----	----	2.70
07		5.8	250		110	2.50	2.90
08	---	6.5	230		100	3.00	2.00
09	---	7.0	230		100	3.35	2.75
10	(510)	7.6	230		100	3.70	2.70
11	(500)	8.2	220		100	3.85	2.75
12	500	8.8	220		100	3.80	2.65
13	470	9.2	220		100	3.85	2.65
14	470	9.4	230		100	3.75	2.65
15	(480)	9.0	230		100	3.65	2.65
16	---	9.4	230		100	3.35	2.65
17	---	>9.0	240		100	2.90	2.70
18		9.2	250		---	----	2.00
19		>9.0	250				2.80
20		>7.6	260				2.65
21		7.1	260				2.55
22		6.8	280				2.55
23		6.4	200				2.40

Time: 150.0°E.  
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 26

Formosa, China (25.0°N, 121.5°E) March 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs (M3000)F2
00		15.8	240				2.90
01		13.3	240				2.95
02		11.7	240				2.95
03		9.7	230				3.00
04		7.1	240				2.85
05		6.1	<280				2.70
06		7.8	280			----	2.80
07		11.7	240			----	3.00
08		14.1	240			3.40	3.4
09		15.2	230			3.90	4.0
10		15.6	230			4.20	4.5
11		16.1	230			----	<4.7
12		16.6	230			----	>4.4
13		>16.8	<240			----	>4.2
14		17.0	<240			----	2.70
15		17.2	(230)			----	4.0
16		17.0	240			----	3.9
17		16.8	250			(3.10)	3.4
18		>17.0	270			----	2.5
19		>17.2	290				2.2
20		(17.5)	280				2.70
21		(17.4)	<260				(2.75)
22		>17.5	260				(2.90)
23		16.6	240				2.90

Time: 120.0°E.  
Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 28

Canberra, Australia (35.3°S, 149.0°E) March 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs (M3000)F2
00		7.7	270				2.7
01		7.2	260				2.0
02		7.0	265				2.2
03		6.6	265				1.6
04		6.5	270				1.4
05		6.2	275				1.6
06		>6.4	260				2.0
07		7.8	230		95	<1.70	2.90
08	---	8.6	220		100	2.60	2.8
09	(440)	>9.1	210		100	3.20	3.7
10	(410)	10.6	200		100	3.55	3.8
11	(425)	11.2	200		100	3.75	4.1
12	(410)	11.3	200		100	4.00	4.0
13	(425)	11.6	210		100	4.00	2.80
14	(420)	11.8	210		100	4.00	2.80
15	---	11.0	210		95	3.90	2.80
16	---	10.4	215		95	3.75	2.75
17		10.3	225		95	3.40	2.80
18	(10.0)	240			100	2.90	2.85
19	>9.4	230			110	2.10	2.2
20	>8.5	240			----	----	1.9
21	>8.0	250					2.70
22	7.8	260					(2.70)
23	7.8	270					2.60

Time: 150.0°E.  
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 30

Moscow, U.S.S.R. (55.5°N, 37.3°E) February 1958							
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs (M3000)F2
00		335	4.0				<1.3
01		340	4.0				2.40
02		330	3.9				<1.1
03		310	3.9				2.45
04		300	3.5				2.50
05		290	3.4				2.55
06		275	3.6			E	<1.2
07		260	5.8			1.90	2.90
08		245	8.4			2.35	3.00
09		240	10.4			2.70	2.95
10		235	12.0			3.00	2.90
11		230	12.5			3.10	2.90
12		235	13.1			3.10	2.85
13		235	12.9			3.00	2.85
14		235	12.8			2.90	2.05
15		235	12.6			2.50	2.85
16		230	12.3			2.10	2.1
17		225	11.0			1.40	2.95
18		220	9.0				<1.3
19		230	7.2				2.85
20		245	5.8				<1.3
21		270	4.9				<1.3
22		290	4.6				<1.4
23		310	4.3				<1.3

Time: 30.0°E.  
Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 31

Oe Bilt, Holland (52.1°N, 5.2°E) February 1958								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<305	4.3						2.60
01	<320	4.2						2.60
02	<330	4.0						2.55
03	<340	3.6						2.60
04	<310	3.6						2.70
05	<300	3.3						2.70
06	<300	3.6						2.70
07	240	6.2						3.10
08	225	9.2			120	2.4		3.20
09	215	11.4			115	2.8		3.20
10	215	12.3			115	3.1		3.10
11	215	>12.6			115	3.2		3.10
12	215	13.0			115	3.3		3.00
13	220	13.0			115	3.2		3.00
14	215	13.1			115	3.1		3.00
15	215	13.0			120	2.8		3.00
16	210	12.2			---	2.5		3.10
17	210	11.3						3.10
18	210	9.0						3.10
19	220	7.2						3.05
20	250	6.2						2.95
21	(280)	5.4						2.80
22	<300	4.6						2.70
23	(300)	4.5						2.60

Time: 0.0°.

Sweep: 1.4 Mc to 16.0 Mc in 40 seconds.

Table 32

Tokyo, Japan (35.7°N, 139.5°E) February 1958								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		6.5	275					2.75
01		5.9	275					2.70
02		5.6	290					2.65
03		5.4	295					2.65
04		5.0	300					2.55
05		5.0	310					2.60
06		5.5	260					2.80
07		9.2	240			2.30		3.15
08		12.0	230			2.90		3.15
09		13.8	230			3.35		3.05
10	---	14.2	230			3.65		2.95
11	---	14.2	225			3.75		2.85
12	---	14.3	230			3.85		2.80
13	---	14.0	230			3.80		2.75
14	---	13.4	235			3.65		2.75
15	---	13.3	240			3.30		2.75
16		12.4	245			2.90		2.80
17		11.9	250			----		2.85
18		11.1	245				2.5	2.90
19		9.6	240				2.2	2.95
20		8.6	240					2.85
21		7.6	255					2.80
22		7.3	260					2.80
23		6.8	270					2.75

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 33

Formosa, China (25.0°N, 121.5°E) February 1958								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		10.0	240					3.00
01		9.4	230					3.10
02		8.5	240					3.00
03		6.9	230					3.00
04		5.4	240					2.95
05		4.7	(280)					2.70
06		5.4	290					2.70
07		10.2	260			---		3.10
08		13.0	240			3.0	3.2	3.15
09		>14.0	230			3.6	3.7	3.00
10		15.2	230			3.9	4.2	2.90
11		16.5	220			(4.1)	4.4	2.75
12		16.6	<230			4.1	>4.4	2.70
13		>17.0	<230			4.2	4.4	2.70
14	---	17.0	<230	---		(4.1)	4.3	2.70
15	---	17.2	230	---		---	4.0	2.65
16		16.8	240			(3.4)	4.0	2.70
17		16.0	<250			2.6	3.4	2.80
18		16.2	260				2.2	2.80
19		16.8	260				2.0	2.80
20		>17.0	240					2.05
21		15.8	240					2.95
22		>14.0	240					2.90
23		13.1	240					3.00

Time: 120.0°E.

Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 34

Leopoldville, Belgian Congo (4.4°S, 15.2°E) February 1958								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	245	11.1						2.44
01	250	9.4					1.4	2.48
02	245	9.0					1.5	2.55
03	230	8.4					1.6	2.67
04	220	7.0					1.8	2.78
05	240	6.2			---	---	2.2	2.63
06	250	9.2	240	---	115	2.7	3.2	2.80
07	255	10.7	230	---	110	3.4	4.0	2.61
08	290	11.6	220	---	110	3.8		2.36
09	(340)	12.4	220	---	110	4.0		2.24
10	(390)	13.2	220	---	110	4.1		2.20
11	410	14.3	240	---	105	4.1		2.19
12	420	14.4	240	---	105	4.2		2.17
13	420	15.0	230	---	110	4.1		2.16
14	415	15.0	230	---	110	4.0		2.15
15	395	15.0	240	---	110	3.6		2.19
16	390	15.0	250	---	110	3.0		2.21
17	365	15.0	280	---	---	2.1	3.0	2.22
18	330	15.6						2.21
19	310	17.0					2.0	2.30
20	250	17.0						2.52
21	220	15.4						2.54
22	220	14.4						2.52
23	230	12.6						2.45

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 35

Chiclayo, Peru (6.0°S, 79.0°W) February 1958								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00		>11.55	240				4.3	2.70
01		10.9	240				3.4	2.80
02		9.6	245				4.3	2.90
03		9.1	245				3.7	2.92
04		0.45	235				3.7	3.05
05		7.4	230				3.2	3.10
06		6.55	240				2.8	2.90
07		10.0	260			119	2.40	2.90
08		12.65	240			111	3.20	2.80
09		14.05	230			111	3.70	2.60
10		14.6	220			109	4.00	2.40
11		14.4	215			111	4.20	2.20
12	---	14.3	205			111	4.30	2.10
13	---	13.0	205	---		110	4.25	2.10
14	---	13.2	200	---		111	4.15	2.10
15	---	13.35	220	---		110	4.00	2.10
16		13.1	230			111	3.62	2.15
17		12.65	250			110	3.20	2.20
18		12.9	270			121	2.50	2.20
19		>11.9	300					2.20
20		(11.9)	370					2.20
21		>12.15	320					1.8
22		12.45	270					2.4
23		>12.0	250					4.0

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 36

Elisabethville, Belgian Congo (11.6°S, 27.5°E) February 1958								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	8.0					1.7	2.50
01	260	7.0					1.5	2.46
02	260	6.4					1.7	2.50
03	260	5.9					1.6	2.56
04	270	6.0	---	---	---	---	2.0	2.54
05	250	9.0	250	---	110	2.5	3.2	2.78
06	250	10.7	230	---	110	3.2	3.9	2.70
07	265	11.5	225	---	105	3.7	4.4	2.58
08	(285)	12.0	225	---	105	3.9		2.43
09	340	12.6	220	---	105	4.1		2.40
10	350	13.0	225	---	105	4.2		2.32
11	360	13.4	220	---	105	4.1		2.30
12	375	13.5	225	---	105	4.0		2.25
13	375	13.2	230	---	110	3.9		2.24
14	370	13.1	240	---	110	3.7		2.26
15	350	12.9	250	---	110	3.1	3.9	2.28
16	310	13.2	265	---	115	2.3	3.1	2.35
17	280	13.2					1.8	2.42
18	270	13.0						2.52
19	255	13.0						2.52
20	240	11.8					1.6	2.56
21	240	10.8						2.52
22	250	9.8						2.48
23	245	8.8						2.50

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 37

Johannesburg, Union of S. Africa (26.2°S, 28.0°E)

February 1950

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.6	270				3.0	2.65
01		6.0	275				2.2	2.70
02		5.4	<270				<2.1	2.60
03		5.1	(280)				<1.9	2.60
04		4.8	<290				<1.8	2.55
05		4.6	<305				<1.7	2.50
06		6.2	270			(2.0)	2.0	2.05
07	---	8.6	245	---			2.8	3.0
08	---	10.1	235	---			3.4	2.90
09	---	11.0	225	---			3.8	4.0
10	---	11.7	220	---			4.0	4.2
11	375	12.0	210	---			---	2.55
12	(390)	12.4	205	---			---	4.4
13	390	12.4	(205)	---			---	4.6
14	305	12.1	225	---			---	4.5
15	385	11.9	220	---			3.9	4.2
16	(385)	11.5	235	---			3.7	4.0
17	---	11.0	245	---			3.2	3.8
18	---	11.0	250	---			2.6	3.0
19	---	10.9	250	---		<2.0	2.3	2.75
20	---	9.0	250	---			2.2	2.75
21	---	0.0	255	---			2.2	2.75
22	---	7.0	260	---			<2.1	2.75
23	---	7.1	270	---			2.5	2.65

Time: 30.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 39

Watheroo, W. Australia (30.3°S, 115.9°E)

February 1950

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8	295				3.1	2.95
01		6.4	280				1.7	2.95
02		6.5	295					2.90
03		5.9	295				1.2	2.85
04		(5.6)	300				1.5	2.80
05		5.3	300					2.90
06	---	6.0	280	---	120	1.60		3.10
07	---	7.1	250	---	105	2.65	3.0	3.25
08	(430)	8.5	245	4.8	100	3.25	3.6	3.20
09	400	>8.2	225	5.8	100	3.65	4.0	3.00
10	435	8.5	(220)	6.0	100	3.80	4.1	2.80
11	420	>8.5	(225)	6.0	100	3.85	3.8	(2.70)
12	450	>8.5	---	6.0	100	3.85	>4.2	2.70
13	450	>8.5	(250)	6.0	100	3.90		2.65
14	450	>8.5	(250)	6.0	100	3.90		2.60
15	425	>8.5	235	6.0	105	3.85	4.0	2.70
16	440	8.2	235	5.8	100	3.70	3.7	2.75
17	(440)	8.4	245	5.4	100	3.30	3.6	2.80
18	(360)	7.8	250	---	110	2.65	3.1	2.95
19	---	7.6	260	---	130	1.75	2.0	3.05
20	---	6.0	270	---			1.6	2.95
21	---	6.0	295	---			1.7	(2.85)
22	---	(7.2)	300	---			3.0	2.85
23	---	6.8	300	---			>3.3	2.90

Time: 120.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 41

Canberra, Australia (35.3°S, 149.0°E)

February 1950

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.6	280				3.3	2.55
01		7.4	275				2.2	2.55
02		7.0	<280				1.7	2.50
03		>6.6	280				2.2	2.55
04		6.5	290				1.6	2.55
05		>6.1	<290					2.55
06	---	6.8	255	---	120	1.35		2.55
07	---	7.1	230	---	100	2.10	2.3	2.90
08	---	7.6	210	---	100	2.85	3.2	2.90
09	(380)	>8.6	200	4.8	100	3.35	3.8	2.85
10	420	>8.8	200	5.8	100	3.60	4.2	2.75
11	390	>9.1	200	6.0	100	3.90	4.5	2.80
12	420	>9.2	200	5.8	100	4.00	4.3	2.80
13	400	>8.8	200	6.2	100	4.10		2.70
14	395	>8.8	200	6.1	100	4.20		2.70
15	450	8.7	210	5.9	100	3.85		2.65
16	440	8.7	205	5.7	100	3.65		2.75
17	(390)	8.8	220	---	100	3.20		2.70
18	---	>8.7	240	---	105	2.55	2.9	2.75
19	---	8.6	250	---	110	<1.60	2.2	2.70
20	---	>8.1	250	---			3.2	(2.55)
21	---	>7.7	280	---			3.8	(2.55)
22	---	>7.9	<290	---			3.4	(2.55)
23	---	>7.7	275	---			3.4	(2.50)

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 38

Brisbane, Australia (27.5°S, 152.9°E)

February 1950

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.4	285				2.6	2.60
01		7.9	280				2.2	2.55
02		7.5	290				2.6	2.55
03		7.4	280					2.55
04		7.2	300					2.55
05		7.1	300					2.60
06	---	7.7	260	---	120	2.30		2.70
07	---	8.8	240	---	120	2.85	3.3	2.00
08	(520)	10.8	230	---	120	3.45	4.2	2.05
09	(460)	11.0	220	---	120	(3.70)	>4.3	2.70
10	---	11.2	220	---	110	(3.80)		2.65
11	(440)	11.2	<230	---	---	---	>4.2	2.65
12	(400)	11.8	<250	---	110	>3.80		2.65
13	(420)	11.2	225	6.2	110	>3.50		2.60
14	(400)	11.4	<230	5.9	110	(3.90)		2.60
15	---	10.8	230	---	120	(3.70)		2.60
16	---	10.0	240	(5.0)	120	3.50		2.60
17	---	9.5	250	---	120	2.90		2.65
18	---	9.4	260	---	<155	<2.20	3.0	2.70
19	---	>9.0	270	---	---	---		2.70
20	---	>0.5	310	---	---	---		2.65
21	---	9.0	300	---	---	---		2.65
22	---	>8.5	305	---	---	---		2.60
23	---	8.5	300	---	---	---		2.60

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 40

Capetown, Union of S. Africa (34.1°S, 18.3°E)

February 1950

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.7	(275)				2.3	2.60
01		5.2	<300				<2.3	2.60
02		5.0	<300				2.4	2.55
03		4.8	<295				2.4	2.55
04		4.6	<305				<1.9	2.55
05		4.2	<350				<2.1	2.45
06	---	4.5	310	---		<1.6	<1.8	2.60
07	---	7.1	260	---		2.4		2.90
08	---	8.7	245	---		3.1	3.3	2.85
09	---	10.4	240	---		3.5	3.6	2.65
10	---	10.8	225	---		3.8	4.1	2.55
11	(410)	11.3	225	5.2	---	---	4.4	2.55
12	400	11.6	(220)	6.4	---	---	4.6	2.50
13	400	11.9	(220)	6.2	---	---	4.7	2.45
14	400	11.5	(220)	6.2	---	---	4.5	2.45
15	390	11.5	(230)	6.1	---	---	4.4	2.45
16	(390)	11.2	240	---		3.9	4.0	2.50
17	---	10.9	245	---		3.6	3.8	2.55
18	---	10.4	250	---		3.1	3.2	2.65
19	---	10.0	255	---		2.4	2.9	2.70
20	---	9.6	250	---		<1.8	2.0	2.75
21	---	8.0	(245)	---			2.1	2.75
22	---	7.2	<255	---			<1.9	2.75
23	---	6.5	(260)	---			2.2	2.70

Time: 30.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 42

Hobart, Tasmania (42.9°S, 147.2°E)

February 1950

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.8	300					2.40
01		6.0	300					2.45
02		5.6	300				3.2	2.40
03		>4.8	300				3.2	2.40
04		4.3	310				3.0	2.40
05		4.2	310				3.0	2.50
06	---	5.2	280	---		1.40		2.75
07	---	5.6	250	---	110	2.75		2.80
08	---	6.3	240	---	110	3.30	3.7	2.70
09	470	7.0	230	5.0	110	3.70	4.0	2.65
10	480	7.6	220	5.2	---	---	4.2	2.70
11	480	8.0	220	5.4	100	3.90	4.3	2.55
12	500	>8.0	220	5.4	100	>4.05		2.50
13	480	8.2	220	5.6	100	4.20		2.60
14	500	8.2	220	5.3	100	4.10		2.55
15	500	7.8	220	5.2	100	3.90		2.60
16	(500)	7.8	230	5.1	100	3.65		2.60
17	(480)	7.6	230	---	110	3.25		2.60
18	---	7.8	250	---	120	2.60	3.0	2.70
19	---	8.4	260	---	---	---	2.6	2.70
20	---	8.5	270	---	---	---	3.9	2.65
21	---	7.8	280	---	---	---	4.0	2.60
22	---	>7.6	290	---	---	---		2.55
23	---	7.2	300	---	---	---		2.45

Time: 150.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 43

Falkland Is. (51.7°S, 57.0°W)								
February 1958								
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.4	350				3.8	2.30
01		8.2	335				3.1	2.30
02		7.7	330				3.4	2.35
03		7.4	350				3.0	2.35
04		7.0	355		200	----		2.30
05	480	7.5	315	---	180	1.70	1.0	2.20
06	460	8.3	255	---	120	2.45	3.0	2.30
07	520	9.8	250	---	115	3.00	3.8	2.50
08	520	10.4	250	5.4	110	3.35	4.5	2.45
09	450	11.3	245	5.6	110	3.60	4.8	2.50
10	440	12.0	250	6.3	105	3.80	5.2	2.50
11	455	12.3	235	---	105	3.90	5.4	2.50
12	400	12.4	250	6.4	110	3.80	5.5	2.60
13	400	11.6	235	6.4	110	3.80	5.0	2.65
14	400	10.3	240	5.9	110	3.70	4.6	2.60
15	390	10.1	240	---	110	3.65	4.2	2.70
16	400	9.4	250	---	110	3.50	4.0	2.70
17		9.2	250		110	3.10	3.4	2.70
18		9.2	250		120	2.60	3.8	2.70
19		8.9	260		140	1.90	4.1	2.75
20		8.4	285				3.6	2.55
21		8.4	300				3.6	2.40
22		8.4	310				3.4	2.30
23		0.5	340				3.9	2.30

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 45

Bunia, Belgian Congo (1.5°N, 30.2°E)								
January 1958								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	10.1						2.48
01	260	9.3						2.48
02	250	9.0					1.7	2.55
03	230	7.0					1.9	2.71
04	260	6.0			---	---	2.4	2.59
05	260	9.0	255	---	115	2.6	3.2	2.66
06	260	10.6	240	---	110	3.5	3.9	2.47
07	---	11.2	230	---	110	3.9	4.1	2.10
08	---	12.0	230	---	110	4.0	4.4	1.99
09	490	12.8	230	---	105	4.2	4.2	2.02
10	520	12.9	220	6.6	110	4.4		1.95
11	575	12.4	220	---	105	4.2		1.92
12	600	12.7	230	6.4	110	4.1		1.88
13	560	12.7	230	6.0	110	4.0		1.91
14	530	13.0	245	---	110	3.6	3.6	1.92
15	565	12.6	265	---	115	3.0	3.9	1.92
16	585	11.8	315	---	---	---	3.0	1.86
17	430	(12.0)					2.2	1.74
18	430	----					2.0	(1.80)
19	360	(11.8)					2.4	(2.02)
20	295	11.8					2.2	2.21
21	275	12.8					2.0	2.34
22	275	11.7					1.6	2.48
23	270	10.7						2.46

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 47

Elisabethville, Belgian Congo (11.6°S, 27.5°E)								
January 1958								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	0.1					1.9	2.38
01	260	7.0					2.0	2.32
02	260	6.7					1.6	2.24
03	290	5.9					2.0	2.22
04	300	6.4					3.0	2.41
05	250	8.6	250	---	110	2.9	3.9	2.53
06	260	10.0	240	---	105	3.6	4.0	2.42
07	350	10.8	230	---	100	4.0	4.9	2.30
08	425	10.8	230	---	105	4.1	4.8	2.11
09	465	11.6	225	6.6	100	4.3	4.6	2.08
10	460	12.0	225	6.4	100	4.5		2.09
11	460	11.8	225	6.4	105	4.5	5.0	2.08
12	475	11.3	230	6.0	100	4.3	4.7	2.04
13	490	11.3	230	6.0	105	4.0	4.7	2.01
14	465	11.4	230	5.6	105	3.0	4.1	2.04
15	420	10.9	250	---	105	3.2	3.8	2.10
16	370	10.9	280	---	120	2.5	3.3	2.14
17	320	(10.6)					3.2	(2.14)
18	325	----					2.5	----
19	300	10.6						2.36
20	280	9.8					2.4	2.27
21	275	10.0					2.5	2.33
22	270	9.0					2.9	2.28
23	280	8.7					2.3	2.33

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 44

San Francisco, California (37.4°N, 122.2°W)								
January 1958								
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.7	260					2.75
01		4.5	260					2.70
02		4.3	260					2.65
03		4.2	270					2.50
04		3.9	<295					2.50
05		3.8	<310					2.50
06		3.8	280					2.70
07		5.3	260					2.65
08		9.3	230					3.20
09		12.6	225		119	2.25		3.08
10		14.0	225		111	3.00		3.00
11		14.15	225		109	3.30		3.00
12		13.95	220		111	3.55		2.90
13		13.4	220		109	3.65		2.75
14		13.4	225		109	3.70		2.65
15		13.0	230		109	3.50		2.60
16		12.4	230		109	3.20		2.65
17		12.0	235		111	2.70		2.65
18		11.35	225		129	2.00		2.75
19		9.55	220					2.80
20		8.2	230					2.85
21		7.0	(230)					2.05
22		5.85	(240)					2.90
23		5.0	(255)					2.90

Time: 120.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 46

Chiclayo, Peru (6.8°S, 79.8°W)								
January 1958								
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		11.4	<310				3.2	2.45
01		11.1	300				4.0	2.52
02		10.3	270				2.4	2.70
03		9.5	250					2.90
04		8.1	235				2.3	3.10
05		6.0	240					3.08
06		6.4	270					2.60
07		10.0	270			121	2.60	2.65
08		12.55	250			117	3.40	2.50
09		13.6	230			115	3.95	2.32
10		14.0	220			113	4.15	2.15
11		13.5	220			111	4.35	2.05
12	---	12.8	215	7.2		115	4.45	2.00
13	(580)	12.7	210	6.9		111	----	2.05
14	(590)	13.0	<215	6.6		115	4.25	2.05
15	(570)	13.3	225	6.4		113	4.00	2.10
16	(525)	13.7	<250			119	3.80	2.10
17	---	13.45	265			115	3.30	2.10
18		13.1	285			121	2.60	3.1
19		12.3	325					2.20
20		(11.6)	390					(2.05)
21		11.6	375					(2.15)
22		>11.65	350					(2.15)
23		>11.6	310					2.30

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 48

Townsville, Australia (19.3°S, 146.7°E)								
January 1958								
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>7.5	360				3.1	
01		>7.5	355				3.1	----
02		>7.0	350				3.2	----
03		>6.9	(340)				3.0	----
04		>7.0	340				3.1	----
05		>6.5	360				2.6	----
06	---	>6.5	290	---	---	(2.20)		----
07	---	>8.0	250	---	110	3.05		----
08	---	8.4	250	---	110	(3.60)	4.0	(2.30)
09	(600)	>9.0	240	6.1	110	3.85	4.8	2.40
10	515	>9.5	240	6.7	110	4.20	4.9	2.30
11	490	>10.4	240	6.9	110	4.30	5.0	(2.30)
12	455	>11.0	240	6.6	110	4.40	4.9	(2.35)
13	450	(11.2)	<245	6.6	110	4.45	5.6	2.40
14	450	>11.0	(245)	6.5	110	4.40	6.6	(2.30)
15	470	10.6	(240)	6.4	110	4.10	5.9	(2.30)
16	460	>10.0	245	6.1	110	(3.75)	6.7	2.35
17	(450)	>9.0	(250)	---	110	3.35	5.4	----
18		>7.6	---		110	2.70	5.5	
19		>8.0	350			<1.90	3.6	
20		>8.0	350				3.6	
21		>7.8	<360				3.2	
22		>7.8	350				3.1	
23		>7.0	350				3.2	

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.



Table 49

Brisbane, Australia (27.5°S, 152.9°E)

January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.0	330					2.40
01		7.8	330				>2.5	2.40
02		7.6	330					2.40
03		7.5	320					2.40
04		7.0	320				2.4	2.40
05		6.8	320					2.45
06	---	7.3	260	---	130	2.55	3.0	2.50
07	(470)	8.0	250	5.0	120	3.30	4.1	2.45
08	500	>8.4	<250	5.8	120	3.75	4.5	2.40
09	400	>8.5	240	6.2	120	(3.90)	5.5	2.40
10	460	>9.0	<240	6.5	120	4.15	5.3	2.40
11	450	10.1	230	6.5	120	>4.00	5.0	2.40
12	450	10.1	240	6.5	120	>3.95	5.0	2.40
13	440	10.4	240	6.4	120	>4.00	5.2	2.45
14	450	9.6	230	6.3	120	>3.90	4.8	2.40
15	450	9.0	240	6.2	120	>3.80	4.8	2.40
16	460	>8.6	250	5.8	120	(3.70)	4.8	2.40
17	---	8.6	250	---	120	3.30	4.0	2.40
18	---	8.4	290	---	130	<2.40	3.9	2.40
19	>8.4	330					3.1	2.40
20	8.5	350						2.45
21	8.6	340					3.2	2.45
22	8.7	330					2.8	2.45
23	8.4	330					3.5	2.45

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 51

Falkland Is. (51.7°S, 57.8°W)

January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.5	350				3.1	2.20
01		9.2	350				3.1	2.15
02		8.8	350				2.2	2.10
03		8.5	385				2.0	2.05
04		8.8	340	---	230	1.65	2.4	2.00
05	555	9.6	280	---	130	2.40	2.6	2.05
06	495	10.2	255	5.4	115	3.00	3.8	2.00
07	500	10.5	250	5.6	105	3.40	5.3	2.10
08	450	10.6	250	6.3	105	3.70	5.3	2.10
09	485	10.8	245	6.3	105	3.90	5.9	2.10
10	475	11.0	240	6.4	105	4.10	5.8	2.15
11	455	11.3	240	6.4	100	4.20	5.4	2.20
12	450	11.4	230	6.4	100	4.20	5.2	2.20
13	450	10.8	245	6.4	100	4.20	5.4	2.30
14	450	10.0	250	6.3	100	4.20	5.0	2.30
15	450	9.3	250	6.1	105	4.00	5.0	2.30
16	450	0.8	250	6.0	105	3.80	5.7	2.35
17	425	0.3	250	5.8	105	3.40	6.0	2.45
18		8.2	255		115	2.90	6.3	2.45
19		8.0	290		120	2.10	5.4	2.35
20		8.3	300	---	---		4.5	2.30
21		8.0	355				4.0	2.20
22		9.1	350				3.8	2.15
23		9.2	350				3.4	2.15

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 53

Budapest, Hungary (47.4°N, 19.2°E)

December 1957

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	340	5.2						2.74
01	345	5.2						2.72
02	320	5.2						2.84
03	310	4.9						2.90
04	300	4.5						2.95
05	300	4.2						2.95
06	300	4.0						2.95
07	270	5.4	---					3.16
08	240	9.3	210	2.4	155	2.2		3.34
09	240	12.7	210	2.9	130	2.6		3.34
10	240	13.8	---	---	125	3.0		3.38
11	240	14.2	---	---	125	3.2		3.34
12	235	14.2	---	---	125	3.2		3.38
13	240	13.8	---	---	125	3.2		3.34
14	250	13.6	---	---	130	3.0		3.26
15	245	13.0			135	2.6		3.30
16	250	11.8			---	---		3.26
17	240	10.9						3.34
18	250	9.6						3.26
19	250	8.7						3.26
20	260	7.0						3.19
21	300	5.7						2.95
22	325	5.6						2.81
23	320	5.2						2.84

Time: Local.

Sweep: 1.0 Mc to 20.0 Mc in 35 seconds.

Table 50

Canberra, Australia (35.3°S, 149.0°E)

January 1958

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.4	290				3.4	2.40
01		>7.1	290				3.4	2.40
02		7.0	(320)				3.2	2.40
03		6.5	<310				3.2	2.40
04		6.3	300					2.40
05		6.0	300		110	1.70	1.9	2.55
06	---	6.5	240	---	105	2.60	2.8	2.60
07	480	7.0	215	5.0	100	3.30	3.7	2.50
08	520	>7.2	215	(5.8)	100	3.70	4.4	2.40
09	470	>7.6	210	6.0	100	4.00	4.8	2.45
10	485	>7.7	210	6.3	100	4.15	4.9	2.35
11	470	7.7	210	6.2	100	4.25	4.8	2.40
12	450	8.6	210	6.4	100	4.25	5.0	2.45
13	475	>8.6	210	6.4	100	4.30	4.7	2.40
14	465	>8.2	215	6.3	100	4.25	4.7	2.45
15	450	8.5	210	6.0	100	4.10	4.5	2.45
16	445	8.2	210	5.8	100	3.80	4.2	2.50
17	430	>7.8	220	(5.6)	100	3.50	3.8	2.50
18	---	>7.8	240	---	100	2.90	4.0	2.55
19		>7.6	280		110	1.80	3.7	2.55
20		>7.6	300				3.6	(2.50)
21		>7.7	(310)				3.7	(2.40)
22		>7.6	300				3.2	(2.45)
23		>7.7	290				3.0	(2.50)

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 52

Slough, England (51.5°N, 0.6°W)

December 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2	305				<1.1	2.35
01		4.9	310				<1.0	2.35
02		4.5	305				<0.8	2.50
03		4.2	300				<0.9	2.45
04		3.9	290				<0.9	2.40
05		3.6	280				<1.4	2.50
06		3.4	250				<1.6	2.45
07		(4.4)	245				<1.6	2.45
08		8.1	245		165	1.85	2.5	2.85
09		>12.2	235		130	2.55	3.0	2.90
10		14.1	230		120	2.85	3.1	3.00
11		(14.8)	230		120	3.05	3.3	(2.95)
12		>14.6	230		120	3.10	3.3	(2.90)
13		>14.6	235		120	3.05	3.1	(2.85)
14		>14.6	235		120	2.85	3.1	2.80
15		14.3	240		130	2.50	2.5	2.85
16		13.0	235		150	1.90	2.1	2.85
17		11.4	215				2.8	2.80
18		9.2	215				<1.6	2.75
19		>7.0	240				<1.6	(2.75)
20		6.1	245				<1.6	2.60
21		5.6	260				<1.6	2.50
22		5.4	280				<1.6	2.35
23		5.2	300				<1.6	2.35

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 54

Rome, Italy (41.8°N, 12.5°E)

December 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.7	<310					
01		5.6	300					
02		5.6	320					
03		5.6	300					
04		5.0	300					
05		4.7	290					
06		4.4	<290					
07		6.0	260					
08		>10.0	240		140	2.4		
09		(12.5)	240		120	(3.1)		
10		13.7	240		120	3.4		
11	---	13.8	230	---	110	3.6		
12	---	13.3	230	---	110	3.6		
13	---	>13.0	240	---	110	3.6		
14		>13.1	<250		120	3.5		
15		(12.9)	240		120	(3.2)		
16		>11.8	<250		120	2.4		
17		(10.8)	250					
18		>9.4	260					
19		(8.8)	260					
20		>6.9	250					
21		(6.0)	260					
22		5.8	310					
23		(5.7)	300					

Time: 15.0°E.

Sweep: 1.5 Mc to 17.0 Mc in 35 seconds.

Table 55

Ibadan, Nigeria (7.4°N, 3.9°E)								
December 1957								
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(9.0)	295				0.9	2.35
01		(9.3)	285				1.0	(2.50)
02		(10.1)	260					(2.65)
03		(9.3)	250					2.80
04		8.7	230					2.90
05		(7.7)	220					---
06		8.2	285		140	2.00	2.5	2.70
07		>10.1	250		110	3.00	6.7	(2.70)
08		11.5	240		105	3.60	7.0	2.40
09		12.3	230		105	4.00	7.6	2.20
10		(12.5)	220		105	4.20	9.7	(2.00)
11		12.7	215		105	4.30	8.8	2.05
12		13.2	215		105	4.30	8.7	2.05
13		13.0	215	6.4	105	4.25	8.8	2.00
14		>12.5	225	(6.6)	105	4.05	9.7	1.95
15		12.1	240	(4.2)	105	3.75	8.9	1.95
16		>11.5	255		105	3.30	7.0	(1.90)
17		10.9	290		110	2.40	>5.6	(1.95)
18		(10.1)	385		<200	(1.35)		(1.90)
19		(8.5)	480					(1.90)
20		(8.5)	465					(1.95)
21		>8.4	410					---
22		(8.4)	350					(2.25)
23		<8.6	310					(2.25)

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 57

Brisbane, Australia (27.5°S, 152.9°E)								
December 1957								
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.4	320				3.0	2.40
01		8.0	330				2.8	2.35
02		8.0	<345				2.2	2.30
03		7.6	<345				2.5	2.35
04		7.5	330			E		2.40
05		7.2	300			E		2.45
06	(460)	7.6	250	4.4	125	2.80	3.4	2.45
07	485	8.0	250	5.4	120	3.45	4.2	2.35
08	490	8.4	240	6.0	120	>3.80	5.0	2.35
09	485	>8.5	230	6.4	120	(3.85)	5.0	2.35
10	460	>9.0	230	6.4	115	(4.10)	5.4	2.40
11	460	9.4	230	6.5	---	---		2.35
12	465	9.6	240	6.5	---	---		2.35
13	460	9.5	<245	6.4	110	(4.30)		2.35
14	460	9.4	250	6.4	120	>4.20		2.35
15	460	9.2	240	6.0	120	>4.00	4.6	2.35
16	450	8.9	250	5.8	120	(3.70)	4.4	2.40
17	---	8.5	<260	---	130	3.25	4.5	2.40
18		8.4	305	---	130	>2.30	4.8	2.40
19		8.4	340	---		E	3.6	2.35
20		0.5	360				3.2	2.35
21		8.7	360				3.0	2.40
22		8.9	350				3.4	2.45
23		8.9	330				3.2	2.45

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 59

Budapest, Hungary (47.4°N, 19.2°E)								
November 1957								
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	6.3						2.84
01	315	6.2						2.86
02	310	6.0						2.90
03	300	6.0						2.95
04	290	5.8						3.06
05	270	5.0						3.13
06	285	5.0						3.04
07	260	7.8			---	---		3.19
08	240	11.2	220	2.5	140	2.5		3.34
09	235	13.2	---	---	125	2.9		3.38
10	235	13.9			120	3.1		3.38
11	240	14.2			120	3.2		3.34
12	240	14.2			120	3.4		3.38
13	240	14.3			120	3.2		3.34
14	245	13.6			125	3.1		3.30
15	245	13.0			130	2.7		3.30
16	250	12.4			140	2.5		3.26
17	250	11.2						3.26
18	250	10.0						3.26
19	250	9.2						3.26
20	265	8.2						3.16
21	300	7.0						2.95
22	300	6.6						2.95
23	320	6.2						2.84

Time: Local.

Sweep: 1.0 Mc to 20.0 Mc in 35 seconds.

Table 56

Chimbote, Peru (9.1°S, 78.6°W)								
December 1957								
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.0	350				3.6	2.30
01		8.85	330				4.2	2.40
02		>9.0	310				4.4	2.50
03		8.85	<275				4.4	2.72
04		8.2	250				4.4	2.90
05		7.2	240				4.0	2.90
06		8.6	300		(121)	2.00	4.0	2.70
07		11.4	260		119	3.05	4.7	2.60
08		13.35	250		115	3.60	4.4	2.50
09		14.0	240		115	4.10	4.5	2.40
10	---	14.15	230	---	113	4.40		2.25
11	---	13.9	220	7.0	113	4.50		2.10
12	---	(13.6)	220	6.8	115	4.50	5.0	2.02
13	---	13.5	220	6.5	115	4.60	6.2	2.00
14	(650)	12.8	<225	6.4	113	(4.30)	7.4	2.00
15	---	12.5	230	6.1	112	4.15	7.0	2.00
16		12.45	245		112	3.70	6.9	2.00
17		12.0	270		119	3.25	5.8	2.00
18		11.7	300		137	2.50	4.7	2.05
19		>11.5	345				3.1	2.10
20		(11.5)	395					(2.10)
21		>11.1	375					(2.10)
22		10.4	365					2.12
23		9.2	360				4.2	2.20

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 50

Victoria, Canada (48.4°N, 123.4°W)								
November 1957								
Time	h'F2	foF2	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		5.2	250					
01		5.2	280					
02		5.2	280					
03		5.2	290					
04		5.2	290					
05		4.9	260					
06		4.6	270					
07		5.9	250			---	1.9	
08		9.2	220			---	2.4	
09		11.4	210		100		2.9	
10		13.6	200		100		3.2	
11		14.3	210		100		3.3	
12		14.2	200		100		3.5	
13		14.1	210		100		3.4	
14		14.2	210		100		3.1	
15		14.0	210		105		2.8	
16		13.8	210		---		2.3	
17		13.1	200		---		---	
18		11.3	200					
19		9.5	200					
20		7.0	200					
21		6.6	220					
22		6.1	220					
23		5.6	240					

Time: 120.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 60

Chimbote, Peru (9.1°S, 78.6°W)								
November 1957								
Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		9.4	300				4.0	2.35
01		9.5	290				4.3	2.45
02		9.6	260				4.4	2.65
03		0.9	250				4.2	2.85
04		8.05	235				4.0	2.95
05		6.75	240				4.0	2.90
06		8.75	290				3.0	2.75
07		11.95	260		147	2.10	5.2	2.65
08		13.9	245		119	3.65	4.0	2.50
09		14.7	235		117	4.05	6.0	2.30
10		14.0	230		117	4.30	7.0	2.15
11		14.4	225		115	4.42	7.3	2.05
12		13.7	220		<113	(4.50)	6.8	2.00
13		13.05	220		<115	4.40	7.2	2.00
14	---	12.8	220		115	4.25	8.3	2.00
15	---	12.55	230		116	4.00	8.0	2.00
16		11.9	250		115	3.60	8.0	2.00
17		11.65	270		119	3.00	6.6	(2.00)
18		>11.4	310		---	2.10	4.6	(2.00)
19		(11.1)	385					(2.05)
20		(9.3)	430					2.00
21		(9.8)	400					2.02
22		10.0	370					(2.15)
23		9.8	345				2.5	2.22

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.



Table 61

Cape Hallett (72.3°S, 170.3°E)

November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(670)	(4.9)	320	(3.0)	100	(1.8)		2.25
01	---	4.5	320	---	107	1.9		2.30
02	(880)	4.5	310	3.4	109	(2.2)		2.25
03	(750)	(4.6)	290	3.6	107	(2.5)		2.20
04	750	(4.9)	270	3.9	105	(2.6)		2.10
05	610	(5.4)	260	4.2	102	(2.8)		2.25
06	540	(5.6)	245	(4.3)	101	(3.0)		2.20
07	510	6.6	248	4.8	101	(3.3)		2.25
08	505	6.0	230	5.0	101	(3.4)		2.25
09	570	6.7	230	4.9	101	(3.5)		2.20
10	615	(6.1)	230	4.9	101	(3.6)		2.15
11	545	6.2	230	5.1	101	(3.6)		2.20
12	550	6.6	215	5.0	101	(3.6)		2.20
13	620	6.3	215	5.0	101	3.5		2.15
14	610	6.1	220	5.0	101	3.4		2.15
15	550	6.4	230	4.9	101	3.4		2.20
16	535	6.4	240	4.6	101	(3.3)		2.25
17	530	7.0	250	4.5	101	3.0		2.20
18	545	6.4	260	4.2	103	2.9		2.25
19	470	6.6	275	3.9	107	2.7		2.30
20	440	6.4	300	(3.7)	109	2.4		2.30
21	(510)	6.0	310	(3.4)	109	2.2		2.25
22	(545)	5.4	315	(3.4)	100	2.0		2.25
23	---	4.8	325	(3.2)	107	2.0		2.20

Time: 165.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 63

Moscow, U.S.S.R. (55.5°N, 37.3°E)

October 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.9	330					2.45
01		5.3	330					2.40
02		5.3	320					2.45
03		5.2	310					2.50
04		4.8	280			E	1.6	2.50
05		4.7	270			E	<1.4	2.50
06		6.7	255			1.8		2.80
07		9.5	245			2.4	2.5	2.90
08		11.8	240			2.8	3.1	2.90
09	280	13.7	240			3.1	3.6	2.85
10	260	14.1	235	5.40		3.3	3.6	2.80
11	330	14.2	240	5.90		3.4	3.6	2.75
12	310	14.1	230	5.85		3.4	3.5	2.70
13	370	14.0	240	6.45		3.3		2.70
14	320	14.0	240	6.40		3.0		2.70
15	280	13.8	240			2.6	2.6	2.70
16		13.2	240			2.0	2.3	2.70
17		12.2	240			1.3	2.0	2.70
18		11.1	240			E	<1.8	2.75
19		9.5	240			E	2.2	2.70
20		8.3	250			E	<1.7	2.70
21		7.3	270				<1.5	2.50
22		6.5	280					2.45
23		6.2	305					2.40

Time: 30.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 65

Narsarsuaq, Greenland (61.2°N, 45.4°W)

September 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.25)	370				4.0	----
01		(4.6)	365				3.8	(2.52)
02		4.05	390				3.7	(2.40)
03		4.2	390				4.3	2.55
04		(4.6)	<400				3.8	2.48
05		4.55	340				3.9	2.62
06		5.8	280			---	---	2.88
07	---	6.3	265		113	2.65		2.95
08	---	7.4	245		<120	3.00		2.92
09	---	7.45	250		119	3.32		2.80
10	(500)	8.1	240		<115	3.40		2.70
11	(620)	8.5	235		---	(3.50)		2.65
12	(585)	8.8	240	4.7	111	3.50		2.70
13	(550)	8.65	240	4.4	111	3.45		2.68
14	(535)	8.3	240	4.6	111	3.30		2.65
15	(415)	8.6	250		115	3.05		2.70
16	---	8.3	265		119	2.98		2.68
17	---	6.8	280		121	2.58		2.75
18		7.45	305		129	2.60	3.0	2.75
19		(6.35)	325				3.0	(2.65)
20		(5.9)	320				4.2	----
21		(5.3)	330				4.3	(2.35)
22		(5.5)	330				4.6	(2.42)
23		(5.6)	335				4.0	----

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 62

Scott Base (77.8°S, 166.8°E)

November 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	540	5.1	300	3.6	(110)	2.4		2.50
01	(630)	5.0	300	3.7	115	2.4		2.60
02	>520	5.1	290	3.9	110	2.6		2.40
03	590	5.3	280	4.0	105	2.7		2.50
04	540	5.7	280	4.0	100	2.8		2.40
05	500	6.3	280	4.2	100	2.9		2.40
06	520	6.0	270	4.4	100	(3.0)		2.50
07	490	6.6	250	4.6	100	3.1		2.50
08	540	6.4	250	4.7	100	3.3		2.50
09	>550	6.2	240	4.9	100	3.4		2.45
10	550	6.2	240	5.0	100	3.4		2.40
11	540	6.6	240	5.2	100	3.5		2.40
12	540	6.8	240	5.0	100	3.5		2.40
13	540	7.0	250	5.0	100	3.4		2.40
14	530	6.8	240	4.9	100	3.4		2.40
15	530	6.9	250	4.9	100	3.3		2.40
16	540	6.6	250	4.7	100	3.2		2.40
17	500	7.0	260	4.7	100	3.2		2.50
18	540	7.0	260	4.4	100	3.0		2.40
19	470	7.0	260	4.2	100	2.9		2.45
20	490	6.3	280	4.2	100	2.7		2.45
21	520	6.0	290	4.0	105	2.6		2.50
22	540	5.9	290	3.9	110	2.5		2.70
23	540	5.5	290	3.8	110	2.5		2.40

Time: 165.0°E.

Table 64

San Francisco, California (37.4°N, 122.2°W)

October 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.55	<290					2.50
01		5.4	<300					2.55
02		5.4	300					2.50
03		5.35	<300					2.50
04		5.3	<290					2.50
05		5.15	290					2.50
06		6.05	290			---	----	2.2
07		9.3	240		<114	2.35		3.05
08	---	11.8	225		109	3.10	>3.6	3.05
09	---	13.0	225		107	3.45		2.95
10	---	13.6	220		105	3.65		2.85
11	---	13.6	220		103	3.90		2.70
12	---	13.6	220		104	4.00		2.65
13	---	13.4	230		111	3.95		2.60
14		13.2	230		106	3.78		2.55
15		13.0	235		101	3.50		2.60
16		12.6	240		<111	3.00	3.1	2.62
17		12.15	240		119	2.25	2.7	2.72
18		11.2	230				2.8	2.75
19		9.65	(230)				2.0	2.75
20		8.7	(240)				2.4	2.75
21		7.6	(250)					2.75
22		6.75	<260				2.1	2.70
23		6.0	(270)					2.65

Time: 120.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 66

Moscow, U.S.S.R. (55.5°N, 37.3°E)

September 1957

Time	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.7	315				2.1	2.45
01		5.0	320				1.8	2.50
02		4.6	320				<2.0	2.45
03		4.6	300				1.9	2.50
04		4.2	305			E	1.8	2.50
05	330	4.8	300	3.3		1.6	<2.0	2.70
06	320	6.1	260	4.0		2.3	2.5	2.90
07	430	7.4	250	4.2		2.8	3.1	2.80
08	420	8.2	250	4.9		3.1	3.5	2.70
09	370	9.0	240	5.0		3.3	3.6	2.70
10	370	9.6	240	4.8		3.5	3.7	2.60
11	370	9.6	240	5.2		3.6	3.9	2.65
12	370	10.0	240	5.5		3.5	3.7	2.65
13	360	9.8	240	5.4		3.5	3.8	2.60
14	340	9.4	240	5.2		3.3	3.4	2.65
15	335	9.2	250	5.1		3.1		2.70
16	315	8.8	250	4.2		2.8	2.9	2.70
17	335	8.4	260	---		2.3	2.4	2.80
18		8.8	260			1.8	2.8	2.80
19		7.2	265			1.1	2.2	2.75
20		6.8	270				2.4	2.70
21		6.6	270				1.9	2.65
22		5.9	295				1.7	2.50
23		5.6	310				1.5	2.50

Time: 30.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 67

Paramaribo, Surinam (5.6°N, 55.2°W)

September 1957

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	17.0					3.2	2.55
01	270	17.0					3.2	2.60
02	260	16.7					3.2	2.70
03	255	16.0					3.0	2.60
04	240	14.0					3.0	3.00
05	220	11.0					3.0	2.95
06	230	9.0					2.4	2.85
07	250	8.7					2.6	2.80
08	240	7.3					3.0	2.75
09	250	6.8					3.0	2.65
10	245	9.6				2.4	4.2	3.00
11	230	11.5	---	---	100	3.3	4.3	2.95
12	(220)	13.2	230	---	100	3.8		2.85
13	---	13.8	220	---	100	4.1		2.80
14	(310)	14.0	220	---	100	4.4		2.70
15	(385)	13.9	230	---	105	4.5		2.55
16	400	14.2	240	7.2	100	4.5		2.45
17	390	14.8	230	7.0	100	4.4		2.50
18	390	14.0	225	7.0	100	4.2	5.0	2.50
19	405	13.5	230	6.6	100	3.8	5.1	2.45
20	---	13.0	235	---	100	3.3	4.6	2.40
21	(200)	12.8	265	---	100	2.5	4.7	2.45
22	310	13.0					4.3	2.40
23	345	14.0					4.2	2.40

Time: 0.0°.

Sweep: 1.4 Mc to 20.0 Mc in 40 seconds.

Table 68

Delhi, India (28.6°N, 77.1°E)

June 1957

Time	*	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	440	9.0						2.50
01	400	8.8						2.60
02	(380)	(8.2)						(2.70)
03								
04	400	7.8						2.60
05	380	8.0						2.70
06	360	8.9						2.80
07	320	9.3						3.00
08	360	9.4						2.80
09	400	10.0						2.60
10	440	10.8						2.50
11	440	11.1						2.45
12	440	11.9						2.50
13	440	12.2						2.50
14	440	12.5						2.50
15	420	12.8						2.55
16	400	12.2						2.60
17	380	12.2						2.70
18	380	11.5						2.70
19	370	10.8						2.75
20	400	9.4						2.60
21	440	9.2						2.50
22	420	9.1						2.50
23	440	8.9						2.50

Time: 75.0°E.

Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.

\*Height at 0.83 foF2.

Table 69

Bombay, India (19.0°N, 73.0°E)

June 1957

Time	*	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00								
01								
02								
03								
04								
05								
06	300	8.0					3.10	
07	320	8.9					3.00	
08	380	10.0					2.70	
09	420	10.5					2.55	
10	440	>11.3					2.50	
11	470	12.0					2.35	
12	480	12.6					2.30	
13	500	>13.0					2.25	
14	(500)	>13.5					(2.25)	
15	---	>13.7					---	
16	---	>13.7					---	
17	(500)	(12.9)					(2.25)	
18	480	12.1					2.30	
19	440	11.6					2.50	
20	---	---					---	
21	370	9.8					2.75	
22	360	9.3					2.80	
23								

Time: 75.0°E.

Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.

\*Height at 0.83 foF2.

Table 70

Tiruchy, India (10.8°N, 78.8°E)

June 1957

Time	*	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(440)	(10.2)						(2.60)
01	(420)	(9.3)						(2.55)
02	(400)	(9.0)						(2.60)
03	(360)	(8.2)						(2.80)
04	360	7.8						2.80
05	320	7.1						3.00
06	360	9.3						2.80
07	400	11.5						2.60
08	440	12.0						2.50
09	520	12.0						2.20
10	560	12.0						2.10
11	560	11.9						2.10
12	560	11.7						2.10
13	600	11.7						2.00
14	600	11.7						2.00
15	600	11.7						2.05
16	560	11.6						2.10
17	560	11.5						2.10
18	520	11.1						2.20
19	560	11.3						2.10
20	560	10.3						(2.10)
21	560	9.8						2.10
22	520	9.7						2.25
23	460	10.0						2.50

Time: 75.0°E.

Sweep: 1.5 Mc to 18.0 Mc in 5 minutes, manual operation.

\*Height at 0.83 foF2.

Table 71

Moscow, U.S.S.R. (55.5°N, 37.3°E)

February 1957

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.9						2.50
01	320	3.7						2.55
02	320	3.7						2.50
03	310	3.5						2.52
04	290	3.3						2.52
05	280	2.9						2.61
06	280	3.2				(1.3)		2.72
07	260	5.7			120	1.7		2.99
08	250	8.4			120	2.3		3.04
09	240	10.1			120	2.6		3.03
10	240	11.4			120	3.0		2.90
11	240	12.9			120	3.0		2.99
12	230	13.0			120	3.0		2.94
13	240	13.2			120	3.0		2.94
14	240	12.8			120	2.8		2.96
15	230	12.3			120	2.5		2.97
16	230	11.4			130	2.0		3.00
17	230	10.6			130	1.4		3.04
18	220	8.7				E		3.00
19	230	6.8				---		2.95
20	250	5.5				---		2.81
21	260	4.5				---		2.64
22	300	4.3				---		2.56
23	300	4.0				---		2.51

Time: 30.0°E.

Sweep: 0.5 Mc to 20.0 Mc in 10 to 30 seconds.

Table 72

Karotonga I. (21.2°S, 159.8°W)

February 1957

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	---					1.8	---
01	(260)	(9.6)					2.5	(2.60)
02	<290	---					---	---
03	(280)	---					---	---
04	290	---					---	---
05	(290)	(8.4)					2.3	(2.55)
06	300	(8.8)					2.8	(2.60)
07	250	(10.8)			112	2.6	3.0	(2.90)
08	250	12.4	245	---	104	3.2		2.85
09	280	13.0	225	---	108	3.6	3.8	2.75
10	340	13.5	220	---	104	(4.0)		2.70
11	360	14.2	220	6.5	102	(4.1)		2.60
12	360	15.2	210	7.0	105	(4.2)		2.60
13	360	15.1	220	7.3	104	4.1		2.60
14	370	14.8	220	7.2	105	(4.2)		2.60
15	380	13.4	230	7.0	105	(4.0)		2.55
16	380	13.5	250	6.8	110	(3.6)	4.0	2.50
17	360	12.8	250	---	110	(3.2)	3.7	2.60
18	340	(12.4)	270	---	---	---	3.7	(2.60)
19	300	(12.2)					3.0	(2.60)
20	320	(10.2)					3.1	(2.50)
21	<330	---					1.7	---
22	(310)	---					1.7	---
23	300	---					---	---

Time: 157.5°W.

Sweep: 1.5 Mc to 20.0 Mc in 5 minutes, manual operation.

USCOMM-NBS-8L

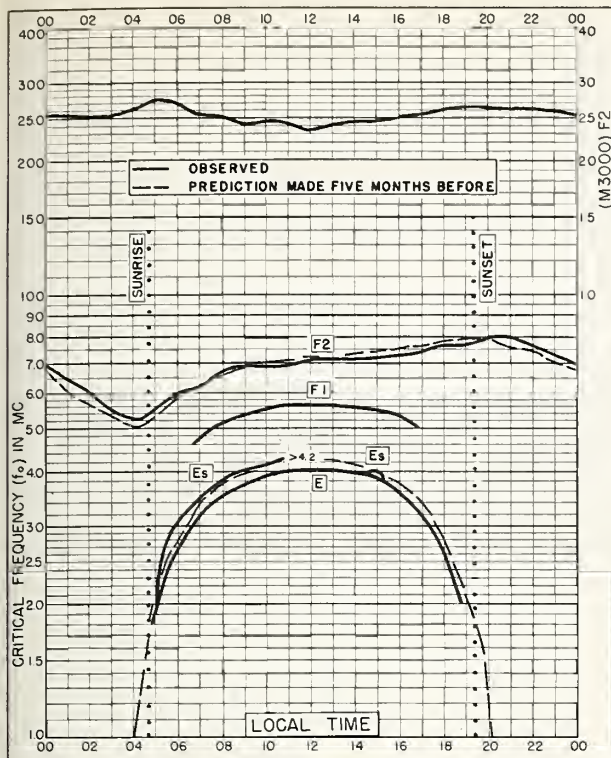


Fig. 1. WASHINGTON, D.C.  
38.7°N, 77.1°W

JUNE 1958

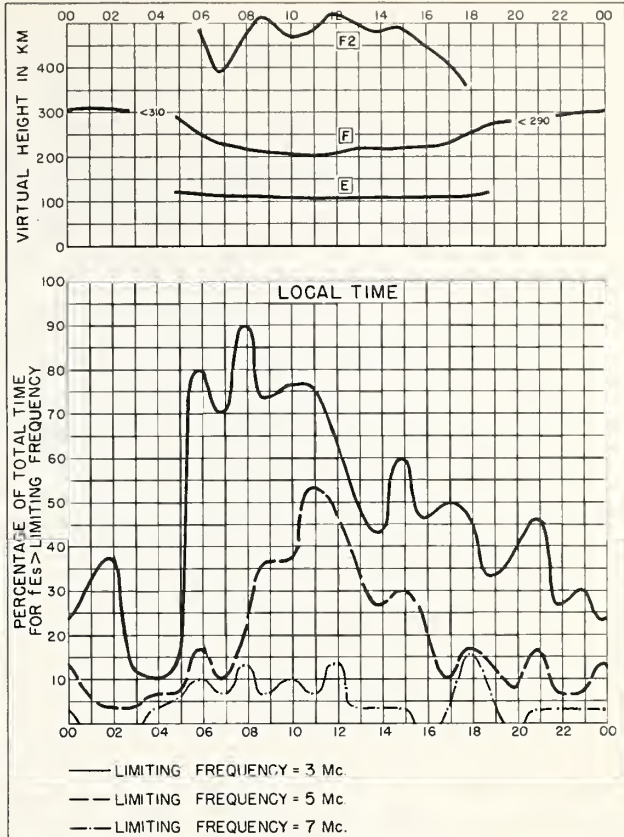


Fig. 2. WASHINGTON, D.C.

JUNE 1958

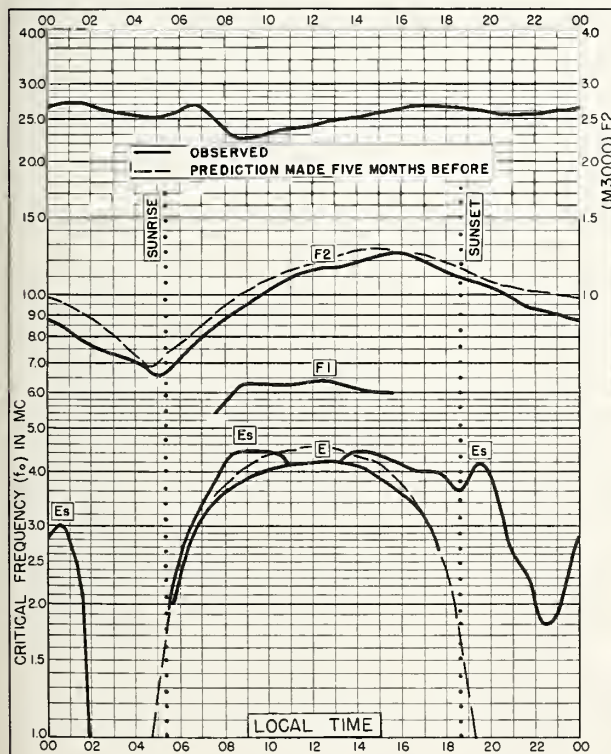


Fig. 3. MAUI, HAWAII  
20.8°N, 156.5°W

JUNE 1958

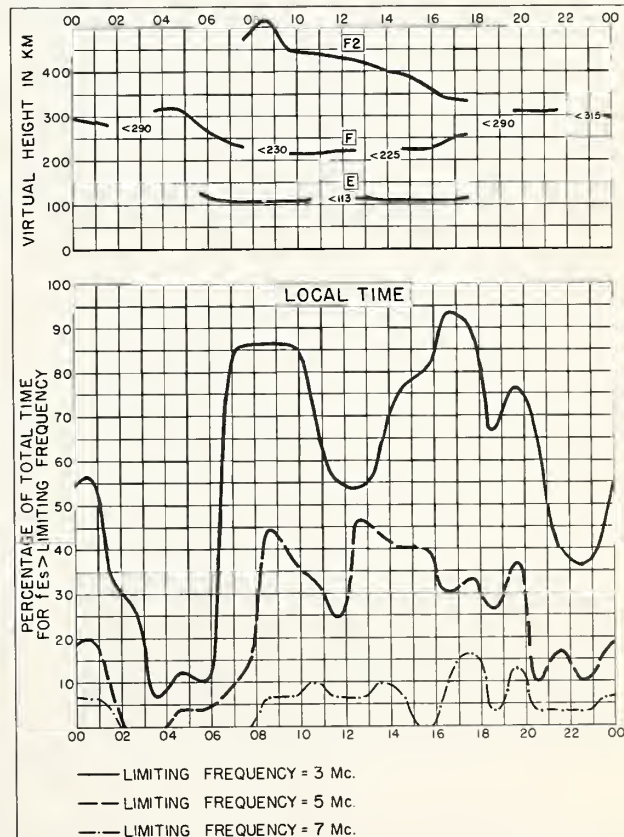


Fig. 4. MAUI, HAWAII

JUNE 1958



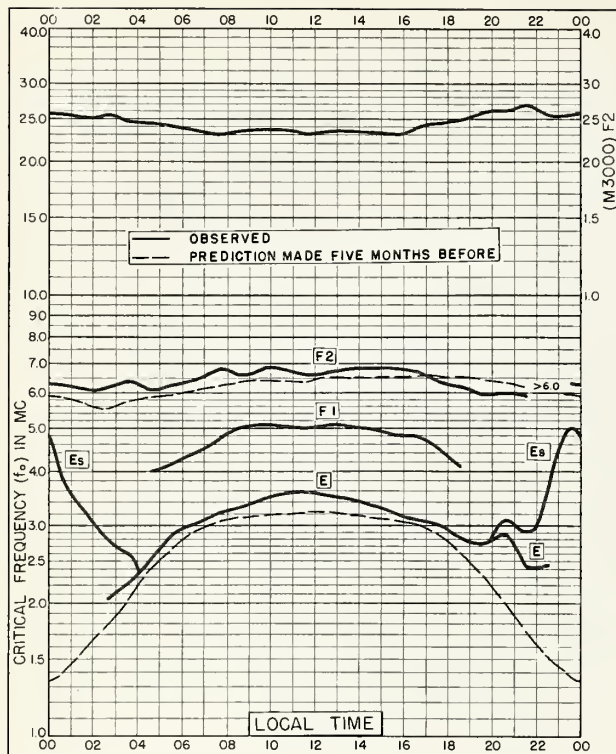


Fig. 5. POINT BARROW, ALASKA  
71.3°N, 156.8°W

MAY 1958

NBS 503

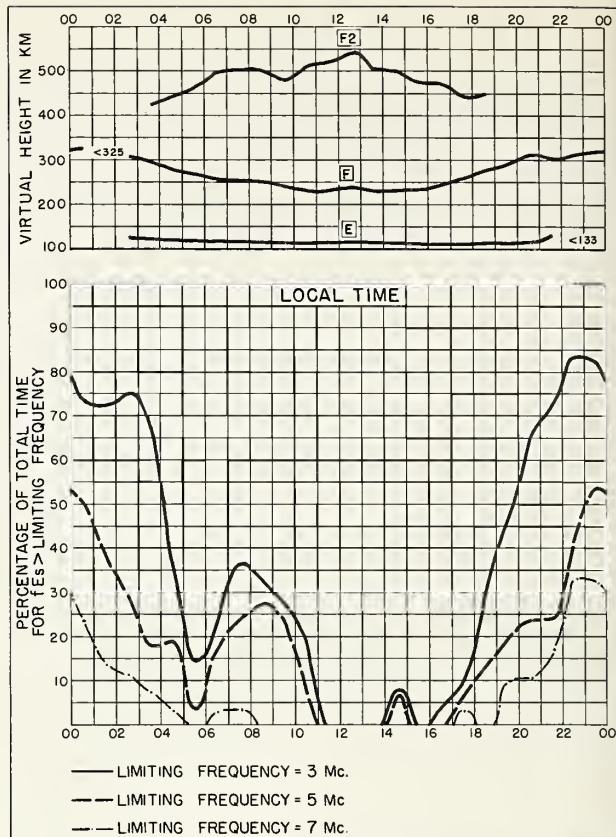


Fig. 6. POINT BARROW, ALASKA

MAY 1958

NBS 490

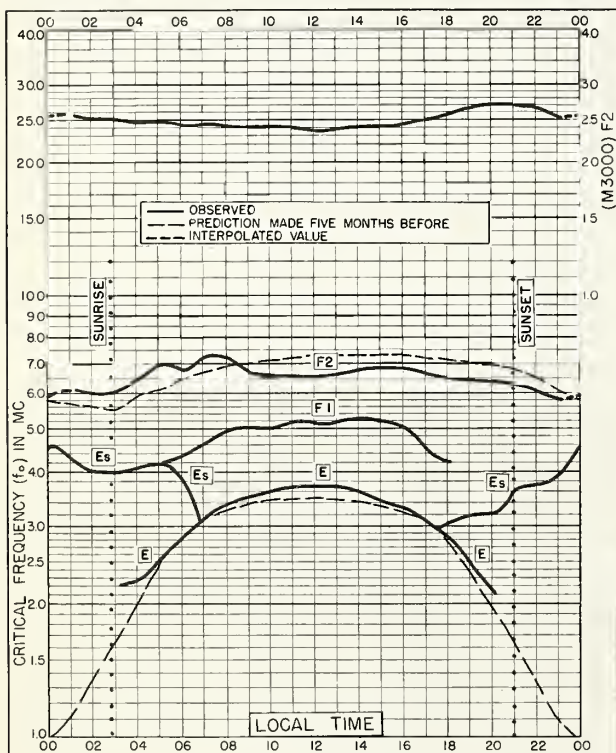


Fig. 7. FAIRBANKS, ALASKA  
64.9°N, 147.8°W

MAY 1958

NBS 503

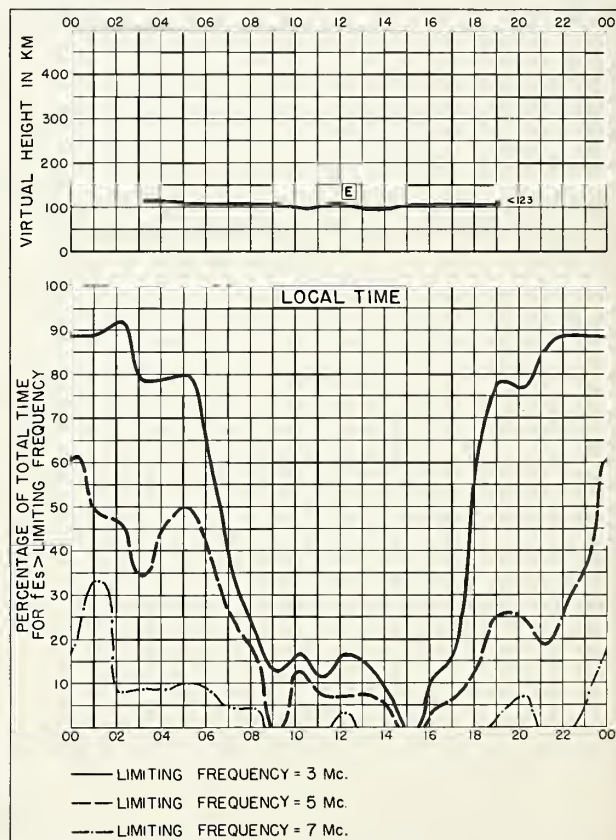


Fig. 8. FAIRBANKS, ALASKA

MAY 1958

NBS 490

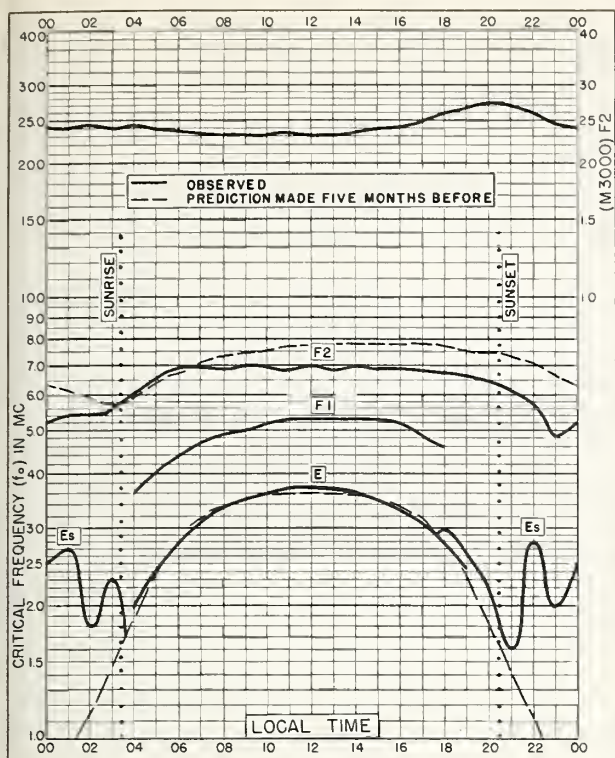


Fig. 9. ANCHORAGE, ALASKA  
61.2°N, 149.9°W

MAY 1958

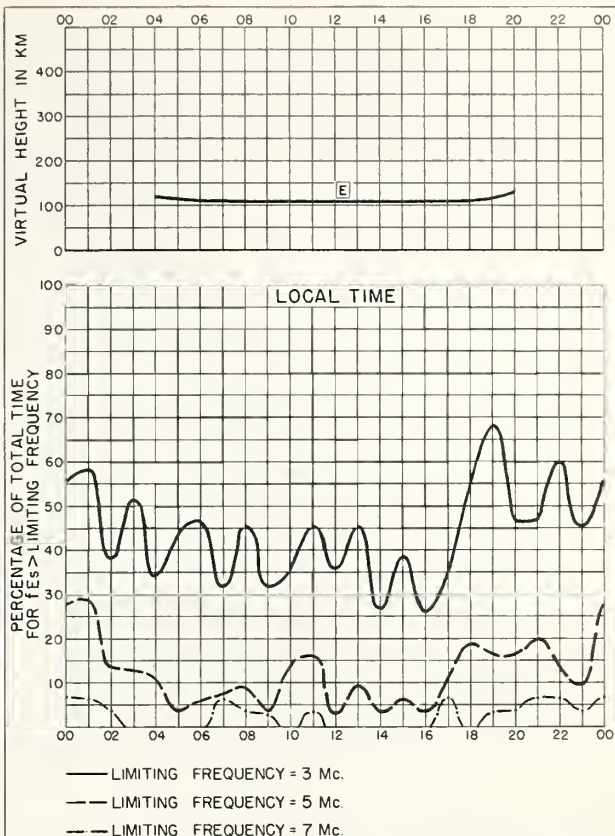


Fig. 10. ANCHORAGE, ALASKA

MAY 1958

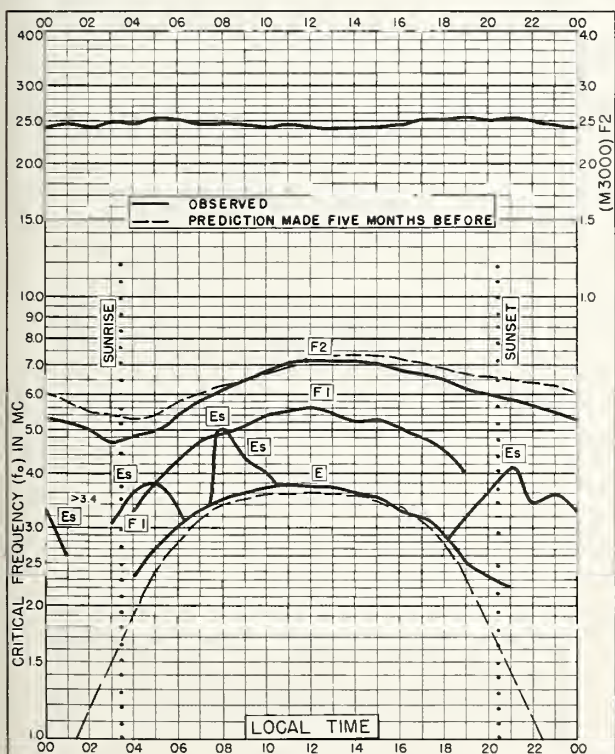


Fig. 11. NARSARSSUAK, GREENLAND  
61.2°N, 45.4°W

MAY 1958

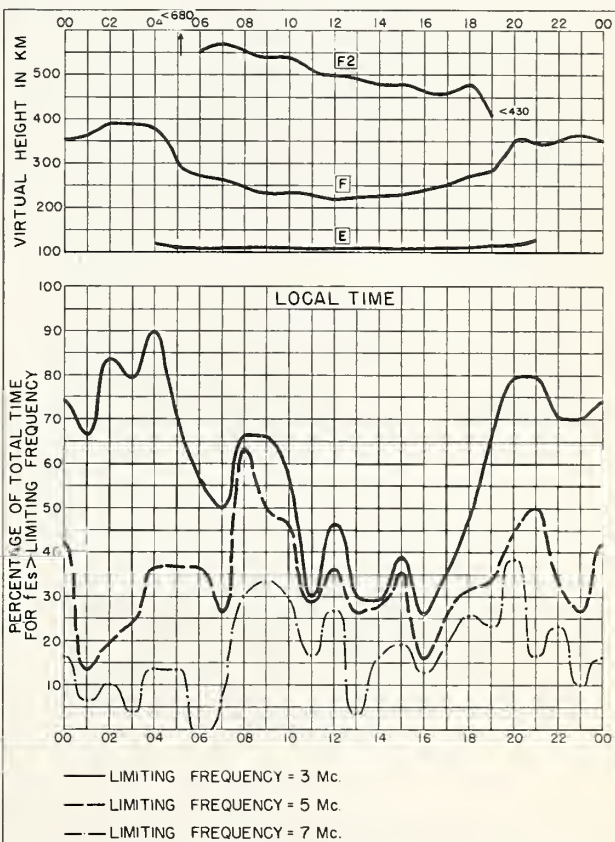


Fig. 12. NARSARSSUAK, GREENLAND

MAY 1958



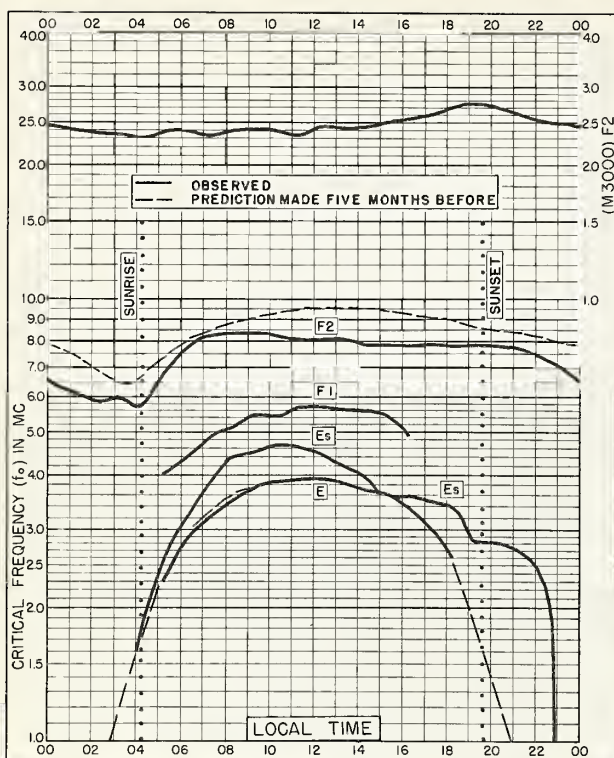


Fig. 13. ADAK, ALASKA  
51.9°N, 176.6°W

MAY 1958

NBS 503

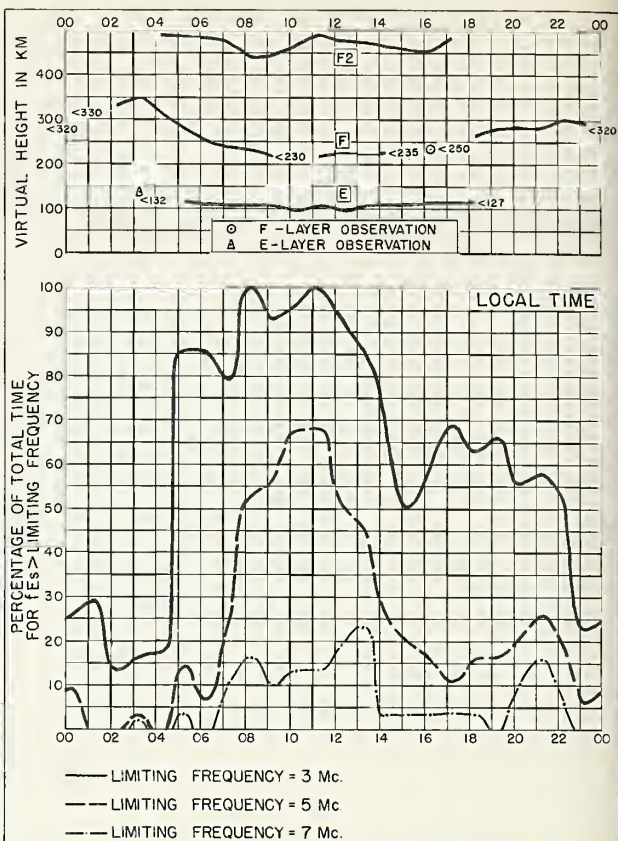


Fig. 14. ADAK, ALASKA

MAY 1958

NBS 490

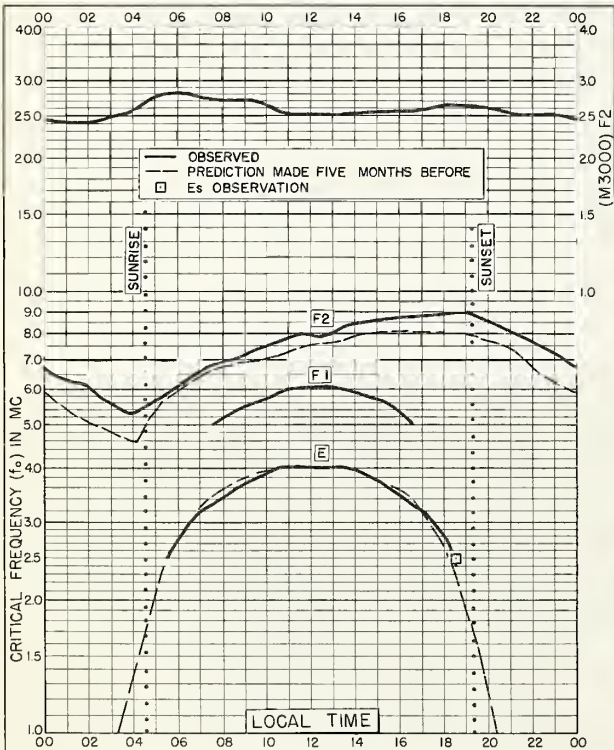


Fig. 15. ST. JOHN'S, NEWFOUNDLAND  
47.6°N, 52.7°W

MAY 1958

NBS 503

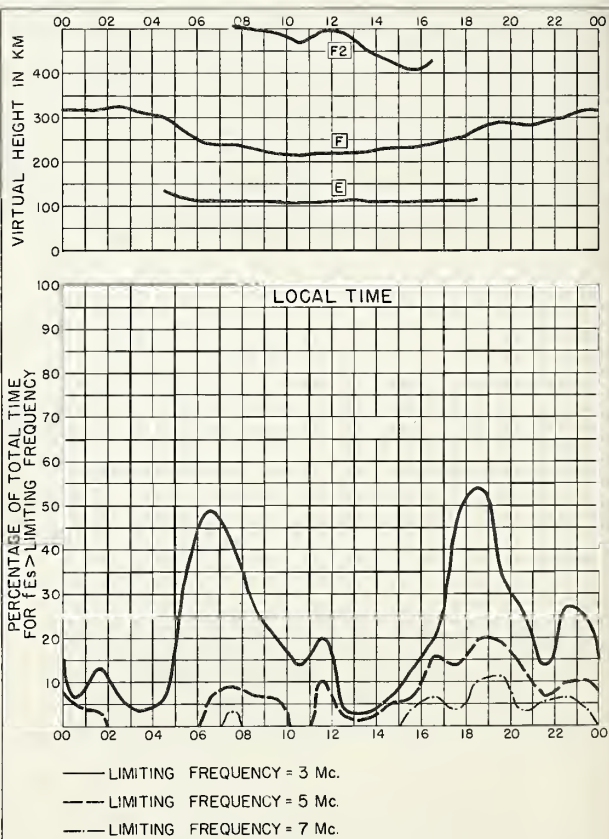


Fig. 16. ST. JOHN'S, NEWFOUNDLAND

MAY 1958

NBS 490



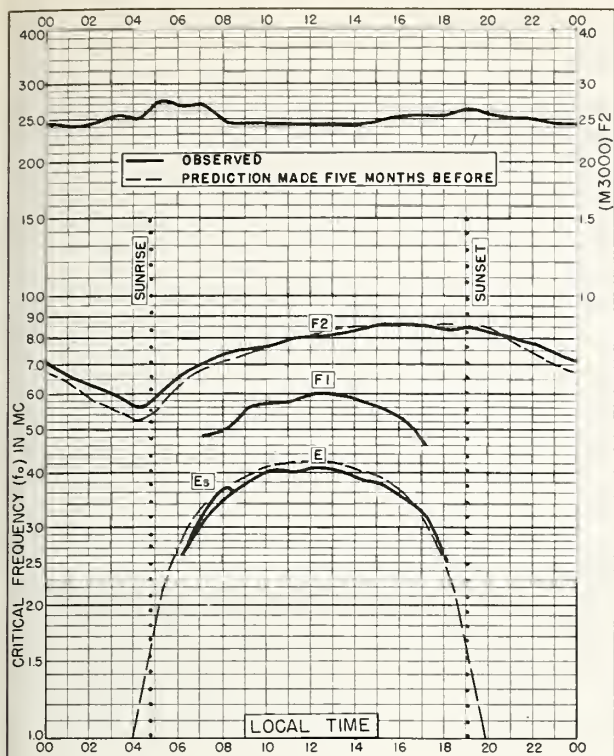


Fig. 17. FT. MONMOUTH, NEW JERSEY  
40.4°N, 74.1°W

MAY 1958

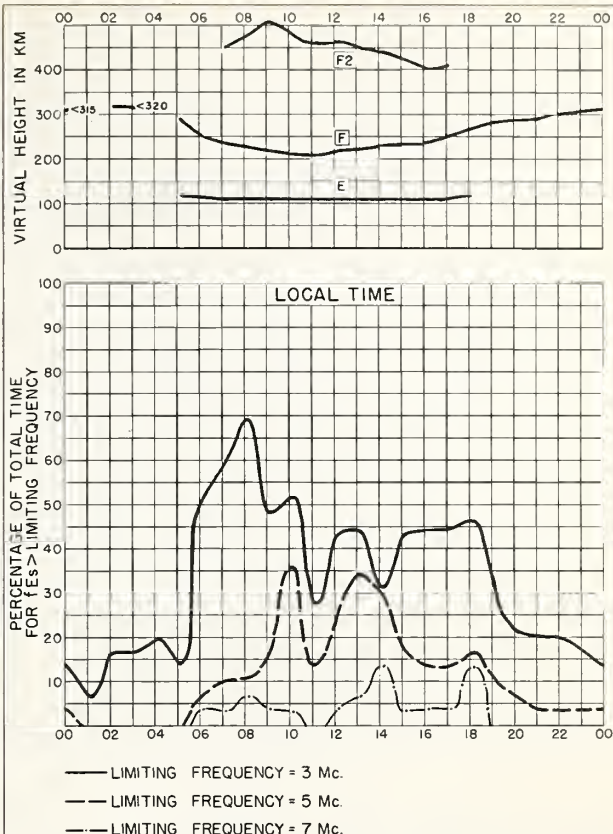


Fig. 18. FT. MONMOUTH, NEW JERSEY MAY 1958

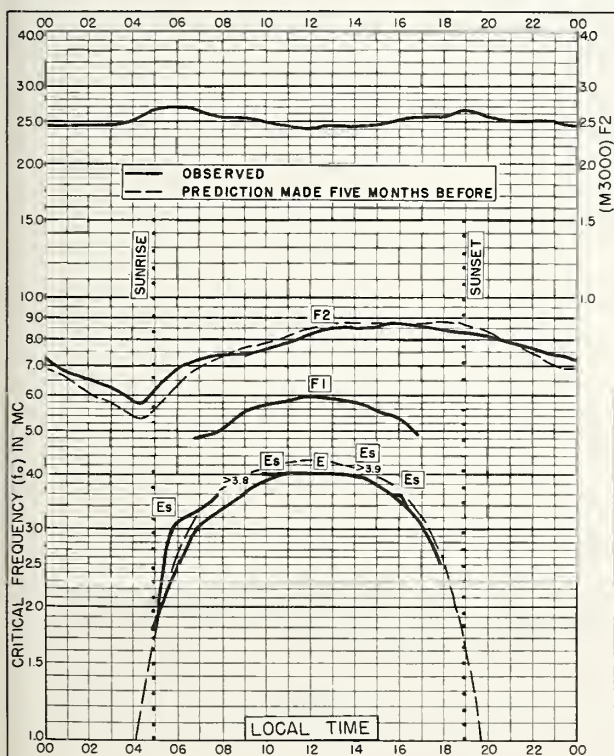


Fig. 19. WASHINGTON, D. C.  
38.7°N, 77.1°W

MAY 1958

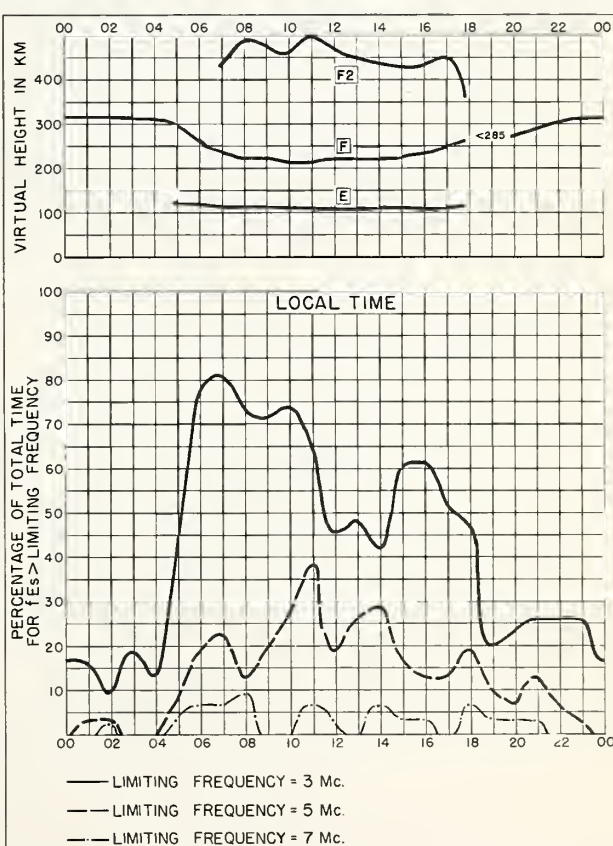


Fig. 20. WASHINGTON, D. C.

MAY 1958

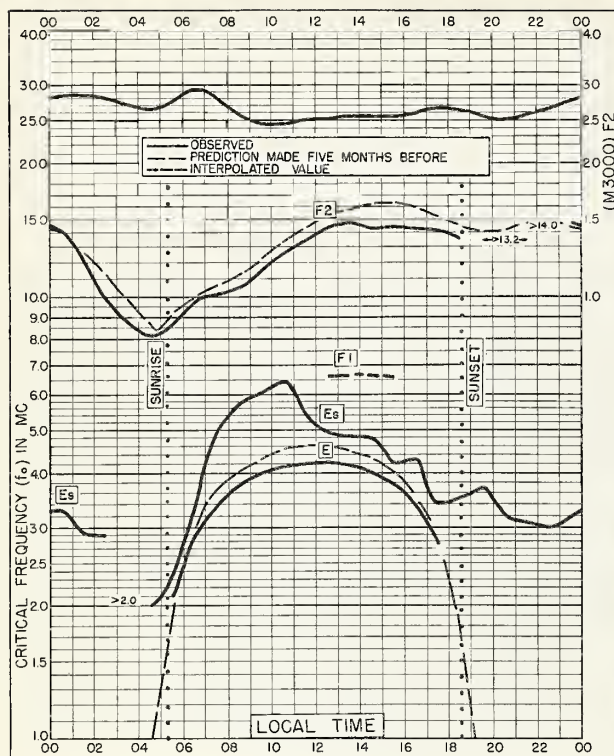


Fig. 21. OKINAWA I.  
26.3°N, 127.8°E

MAY 1958

NBS 503

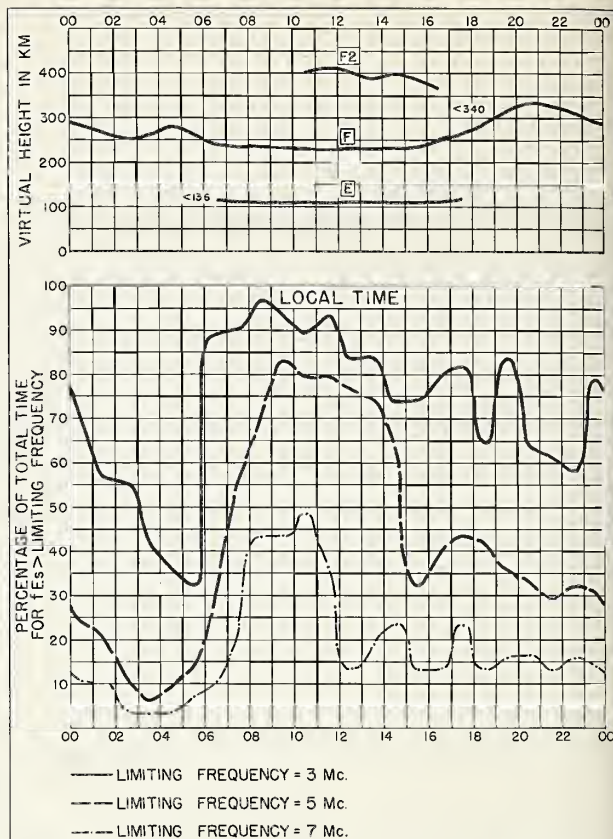


Fig. 22. OKINAWA I.

MAY 1958

NBS 490

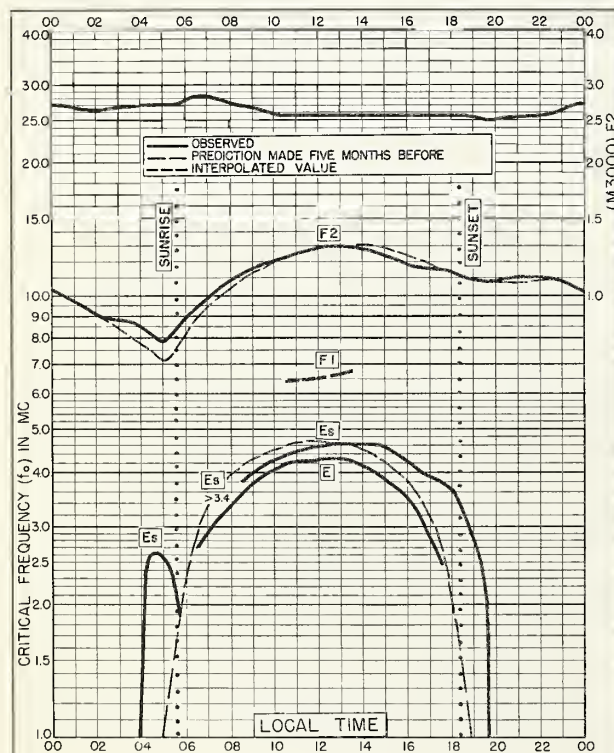


Fig. 23. PUERTO RICO, W.I.  
18.5°N, 67.2°W

MAY 1958

NBS 503

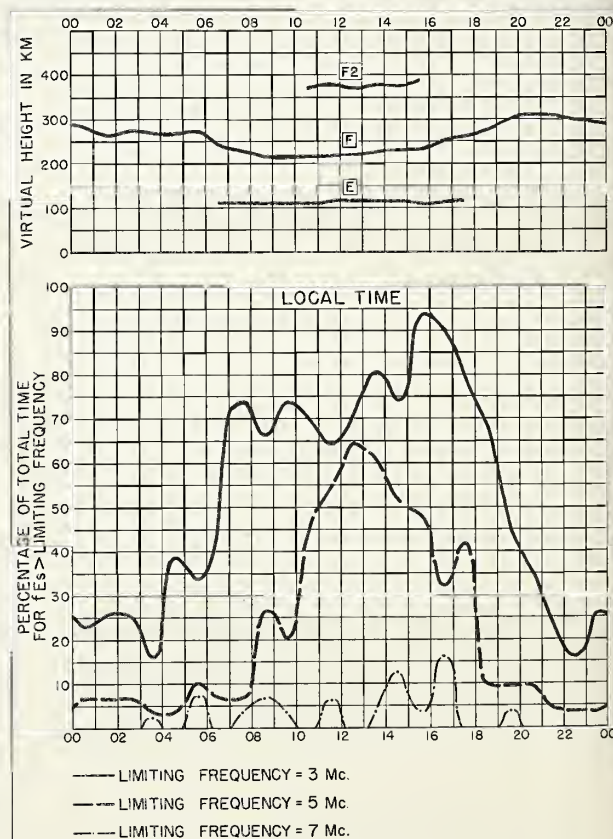


Fig. 24. PUERTO RICO, W.I.

MAY 1958

NBS 490



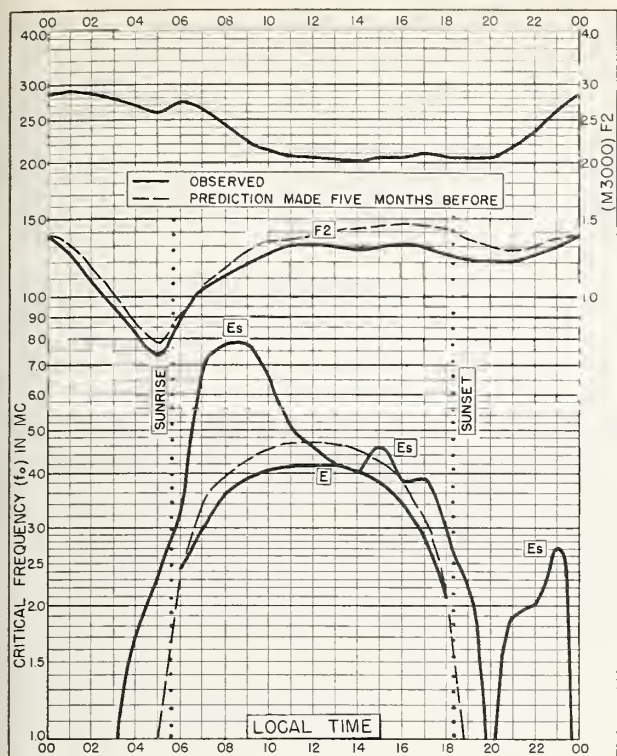


Fig. 25. BAGUIO, P. I.  
16.4°N, 120.6°E

MAY 1958

[illegible]

NBS 503

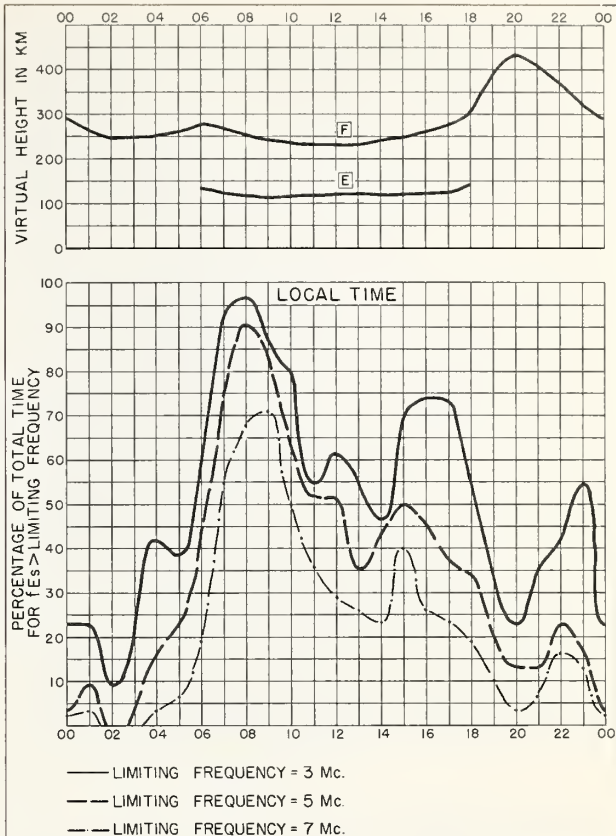


Fig. 26. BAGUIO, P. I.

MAY 1958

Committee Standards Working Group, 2000

NBS 494

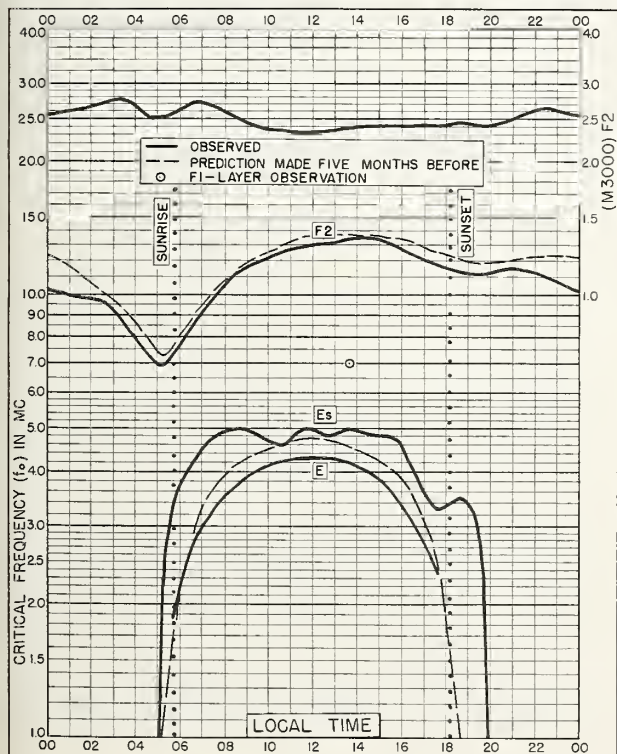


Fig. 27. PANAMA CANAL ZONE  
9.4°N, 79.9°W

MAY 1958

Commerce-Standard No. 111, C-24a.

405 603

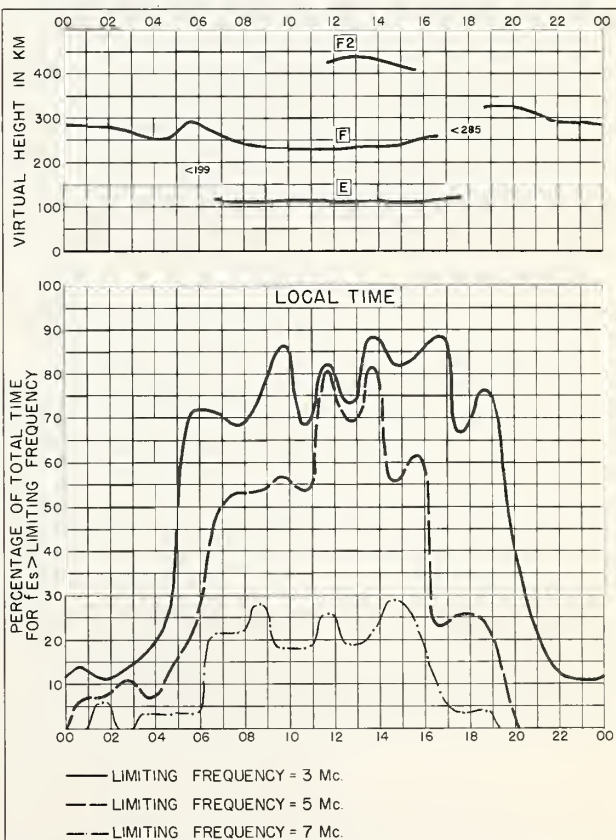


Fig. 28. PANAMA CANAL ZONE

MAY 1958

1912

—

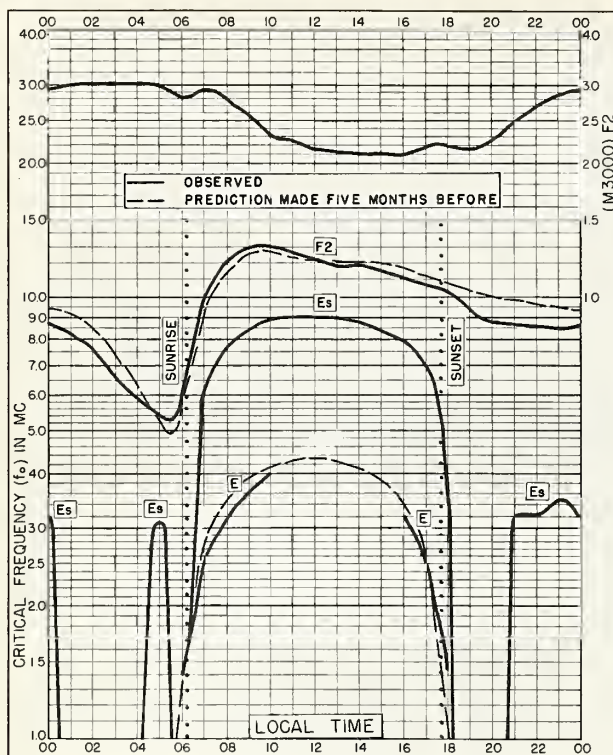


Fig. 29. HUANCAYO, PERU  
12.0°S, 75.3°W

MAY 1958

NBS 503

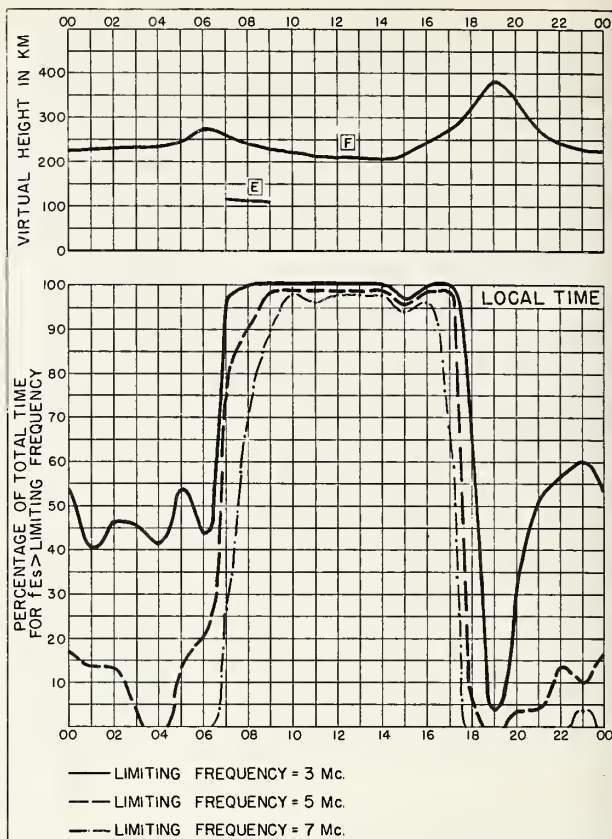


Fig. 30. HUANCAYO, PERU

MAY 1958

NBS 490

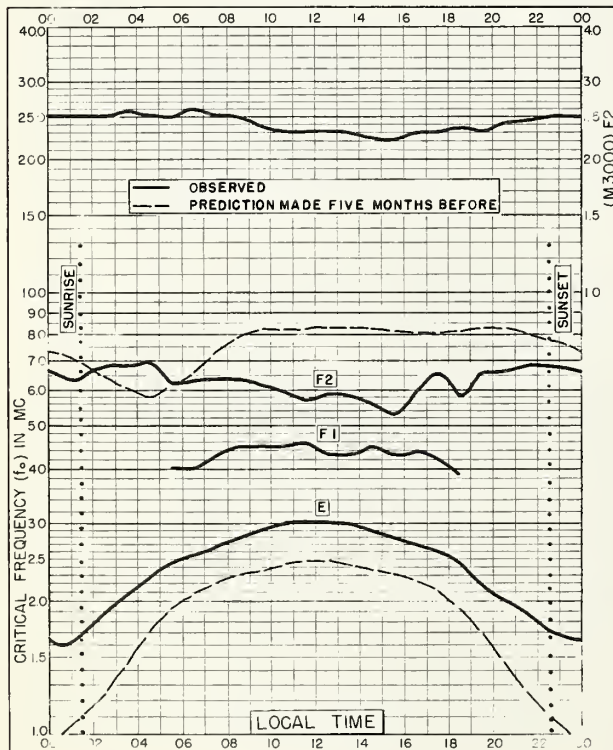


Fig. 31. FLETCHERS ICE I.  
80.0°N, 113.0°W

APRIL 1958

NBS 503

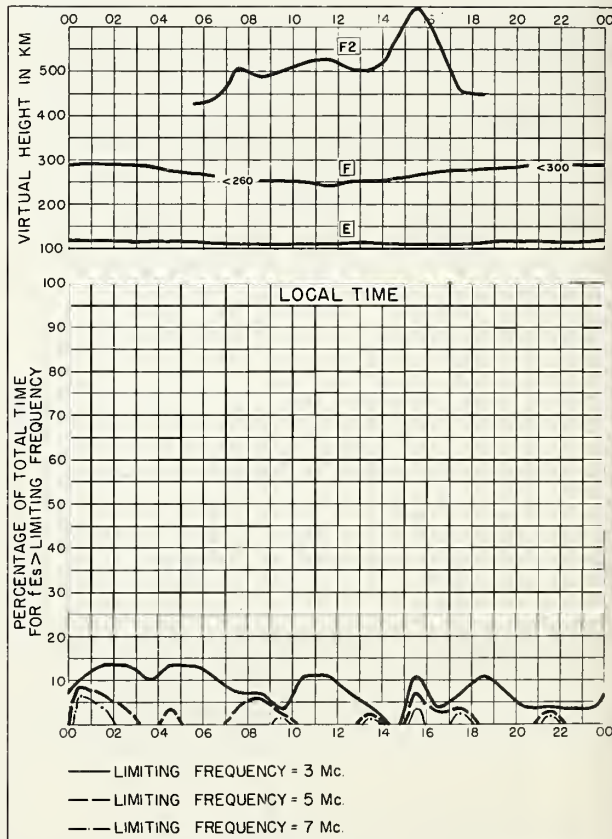


Fig. 32. FLETCHERS ICE I.

APRIL 1958

NBS 490



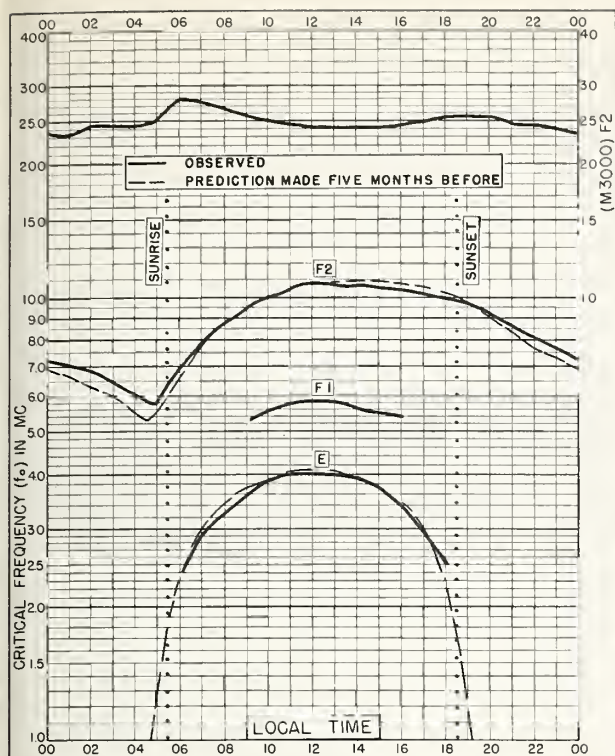


Fig. 33. FT. MONMOUTH, NEW JERSEY  
40.4°N, 74.1°W  
APRIL 1958

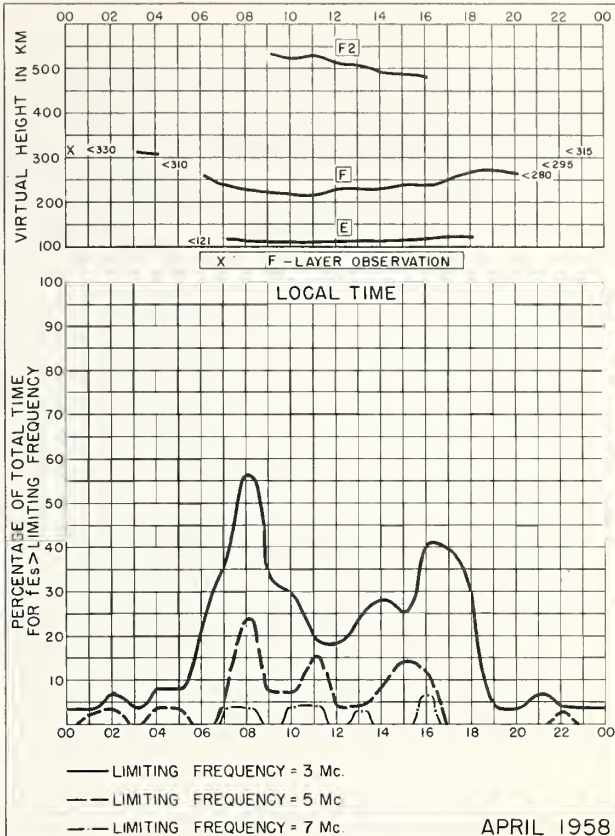


Fig. 34. FT. MONMOUTH, NEW JERSEY  
APRIL 1958

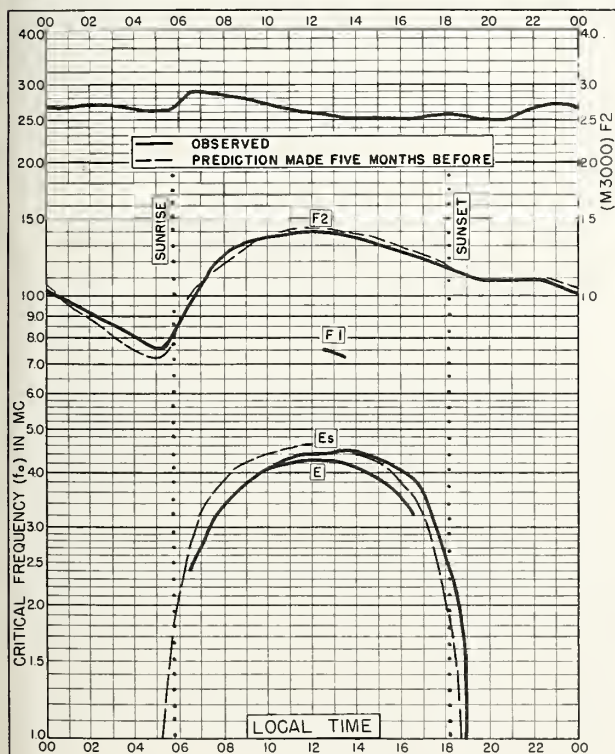


Fig. 35. PUERTO RICO, W. I.  
18.5°N, 67.2°W  
APRIL 1958

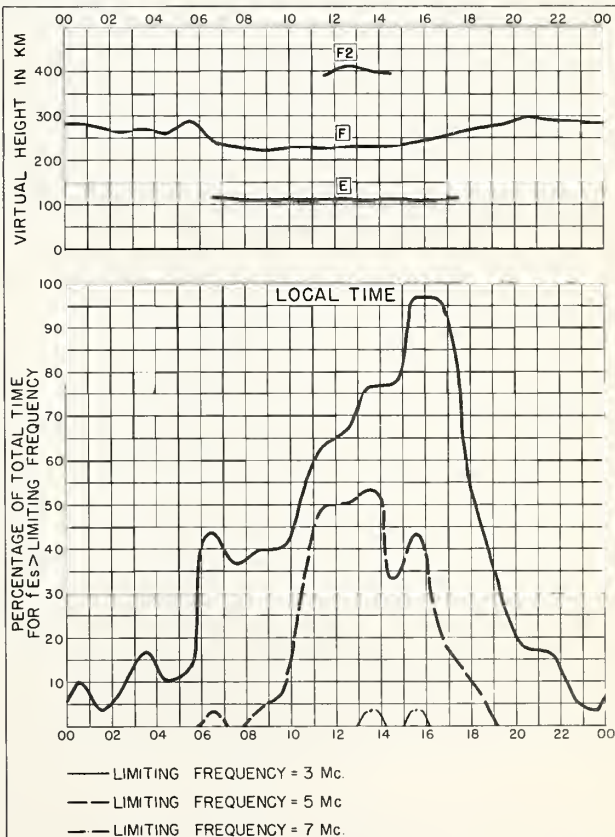


Fig. 36. PUERTO RICO, W. I.  
APRIL 1958

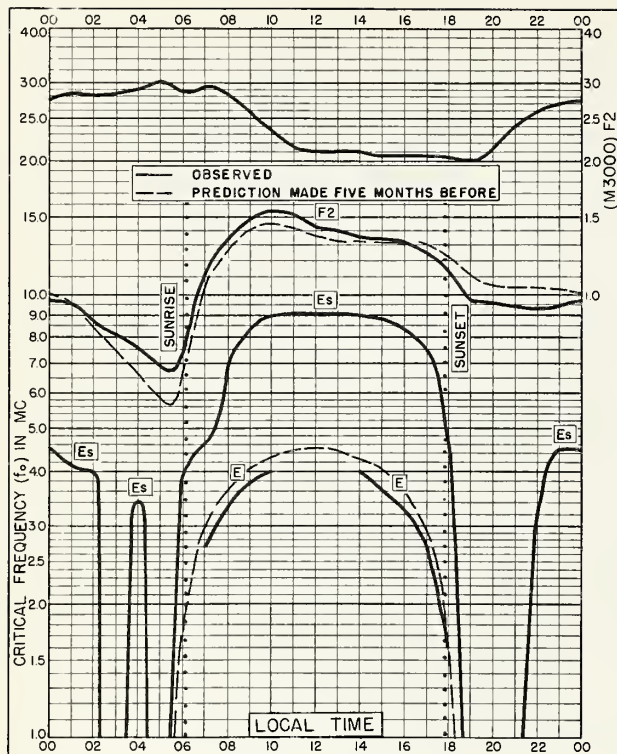


Fig. 37. HUANCAYO, PERU  
12.0°S, 75.3°W

APRIL 1958

NBS 503

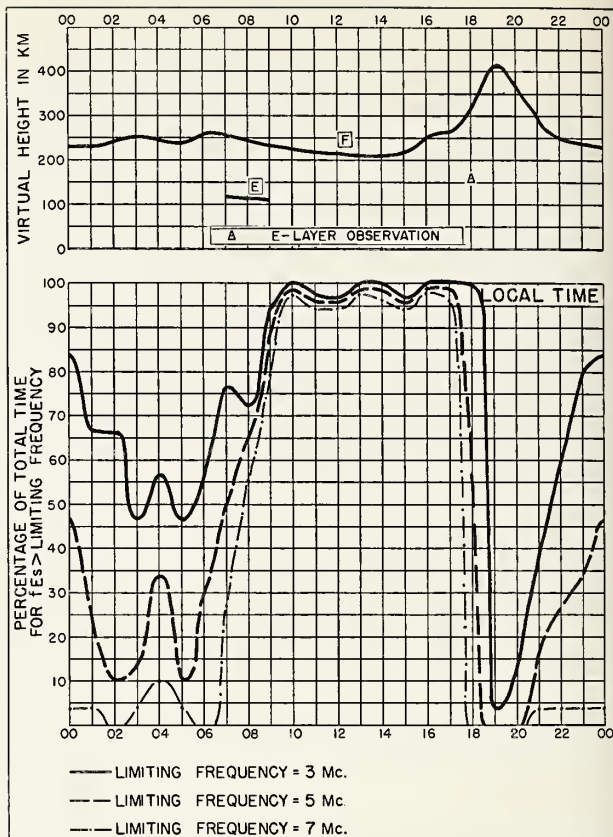


Fig. 38. HUANCAYO, PERU

APRIL 1958

NBS 490

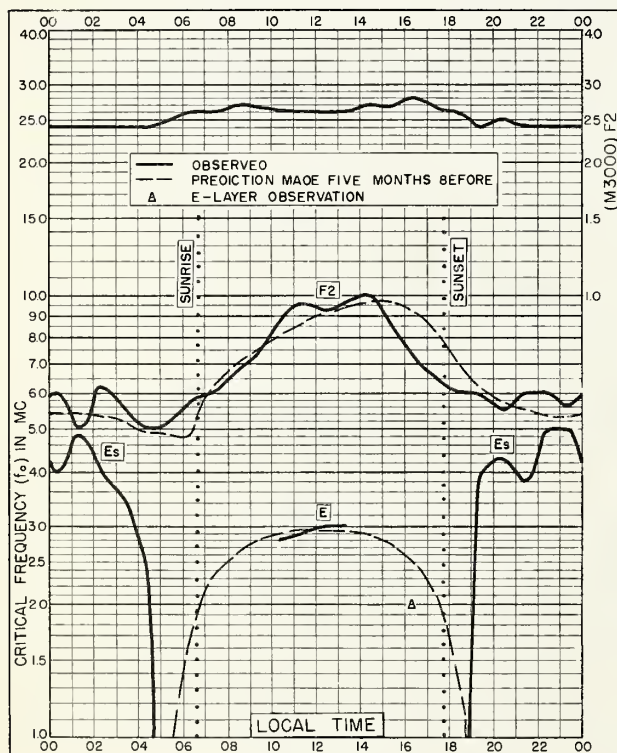


Fig. 39. KIRUNA, SWEDEN  
67.8°N, 20.3°E

MARCH 1958

NBS 503

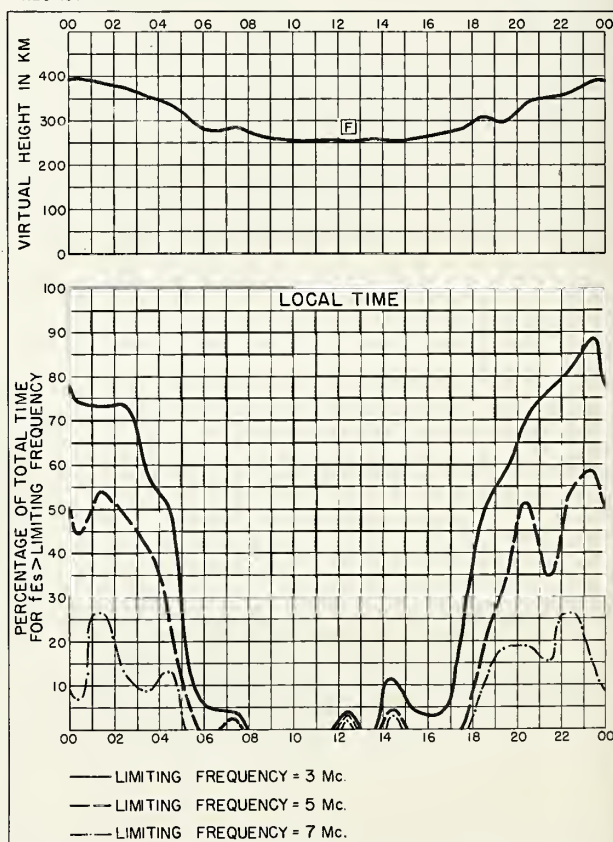


Fig. 40. KIRUNA, SWEDEN

MARCH 1958

NBS 490



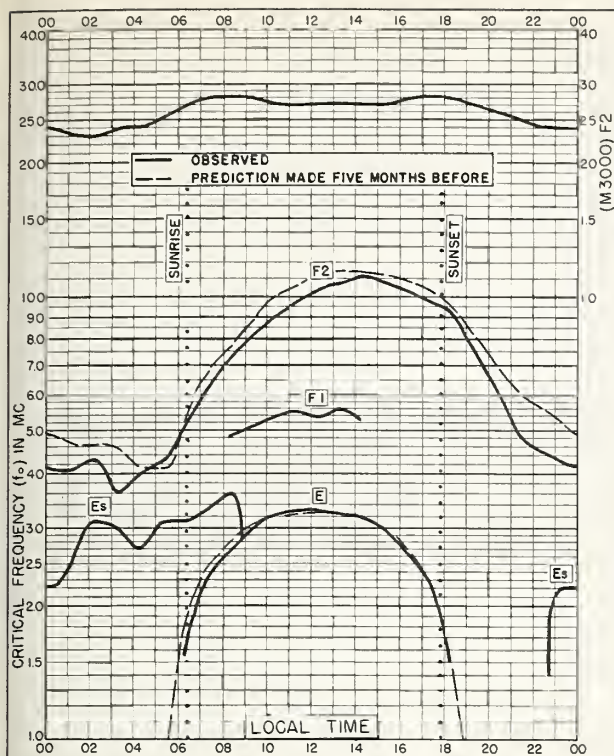


Fig. 41. UPSALA, SWEDEN  
59.8°N, 17.6°E

MARCH 1958

Commercial-Standard-Builder, Colo. NBS 503

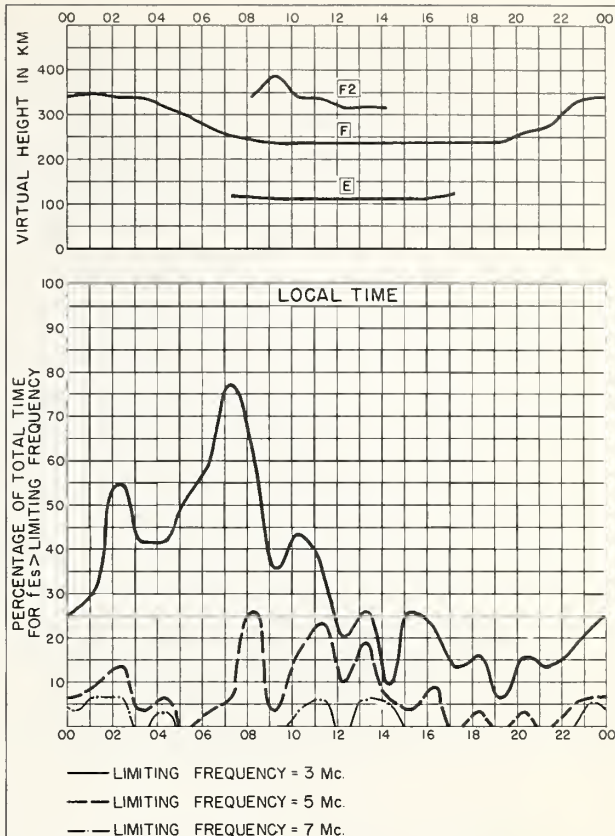


Fig. 42. UPSALA, SWEDEN

MARCH 1958

Commercial-Standard-Builder, Colo. NBS 490

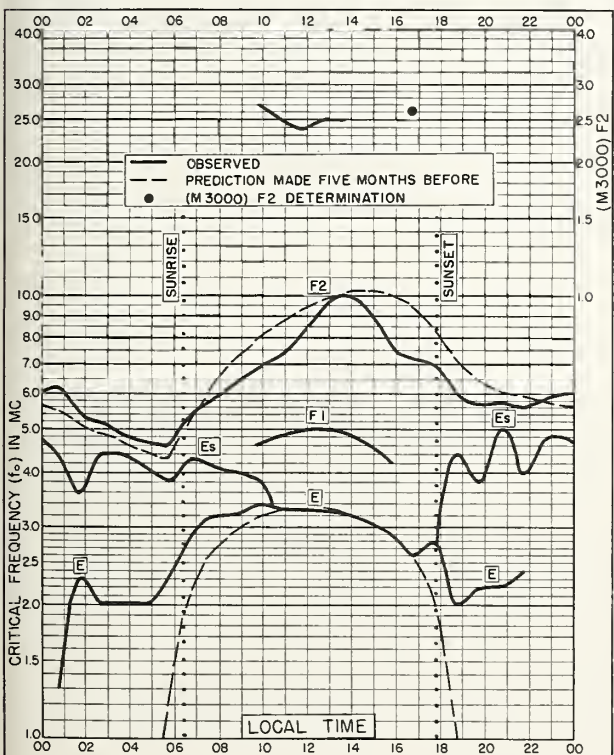


Fig. 43. CHURCHILL, CANADA  
58.8°N, 94.2°W

MARCH 1958

Commercial-Standard-Builder, Colo. NBS 503

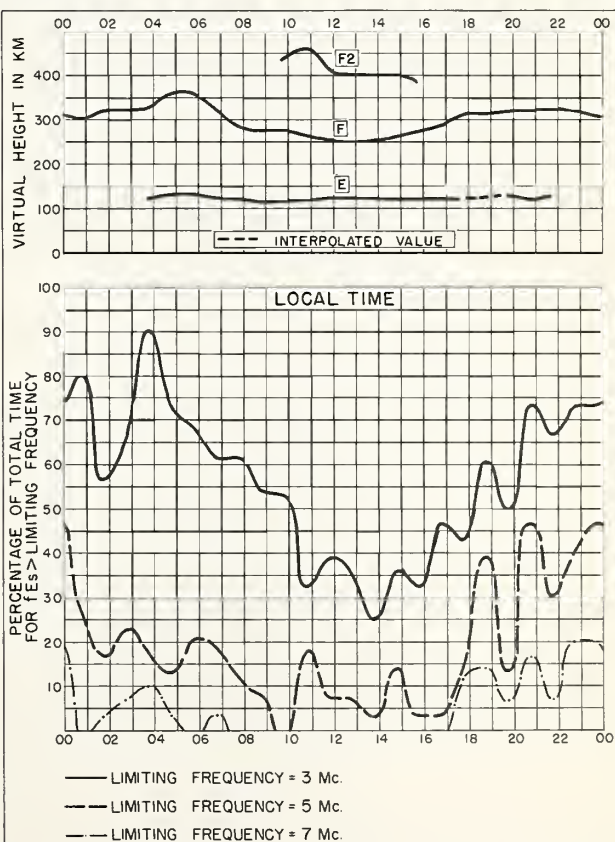
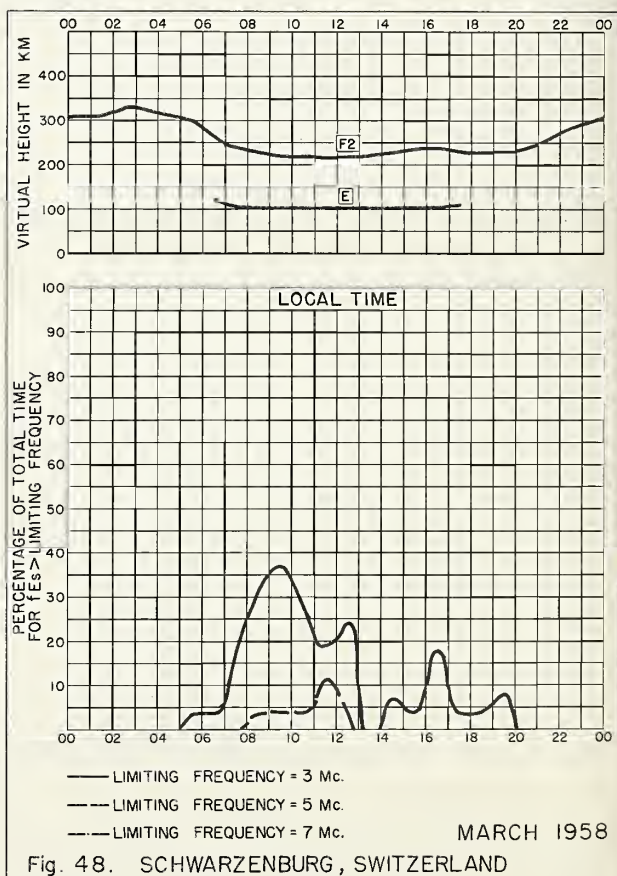
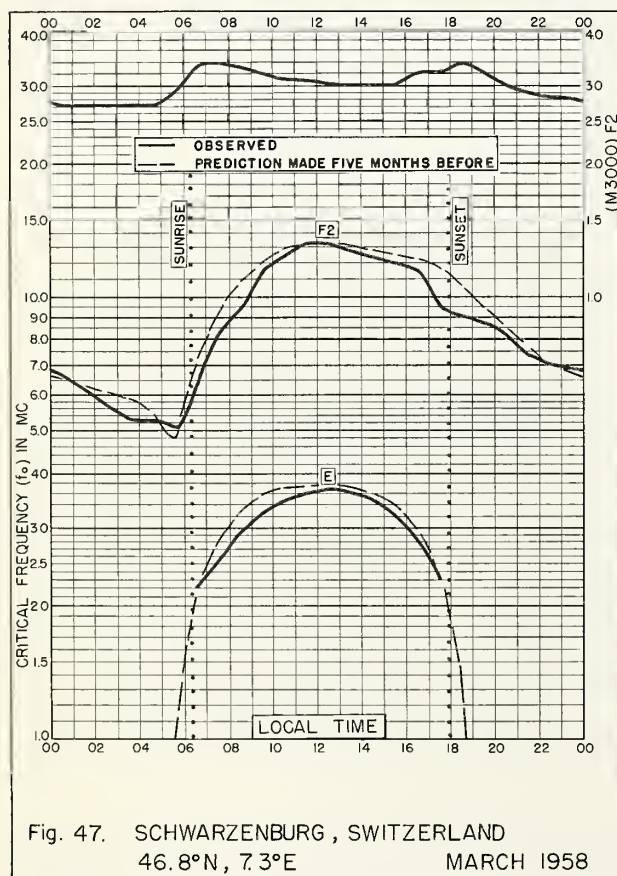
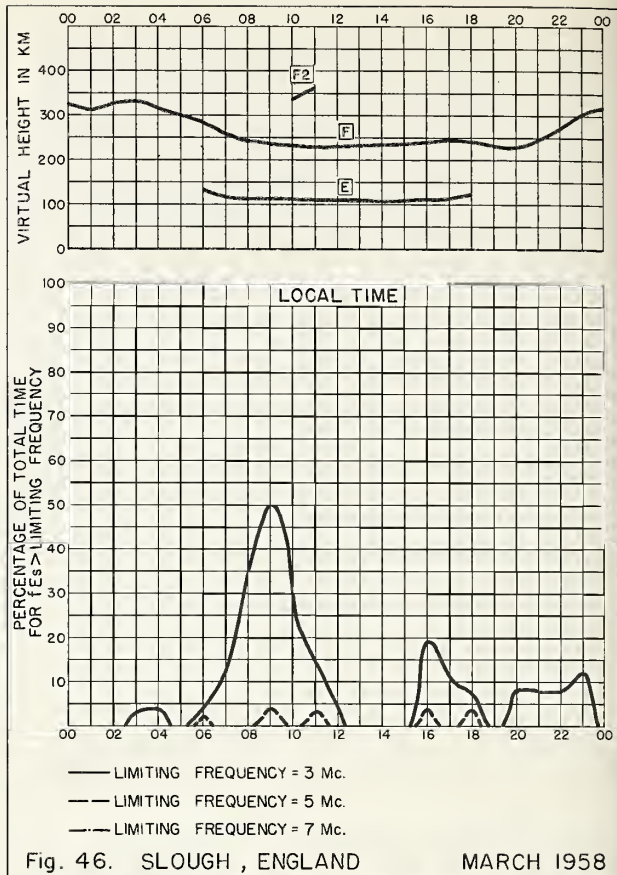
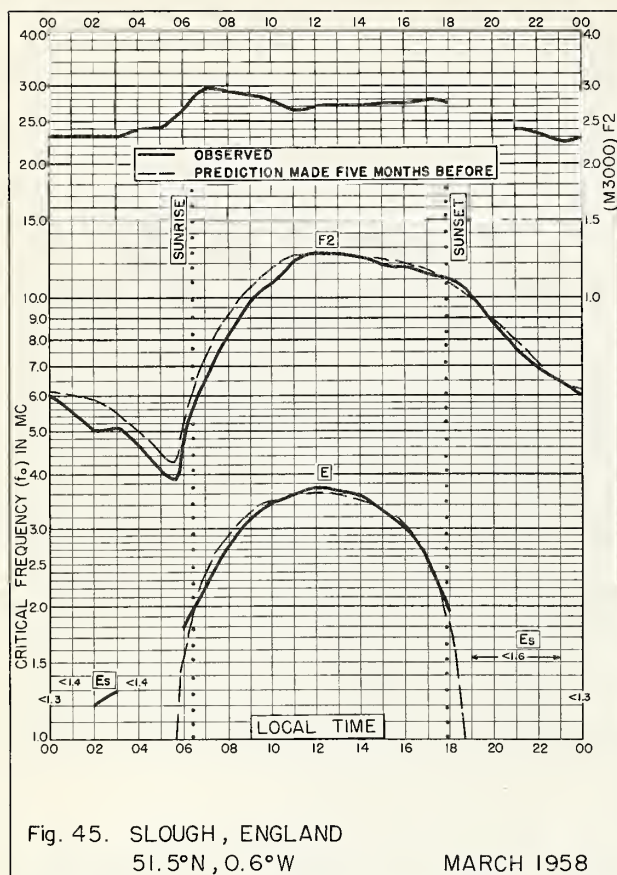


Fig. 44. CHURCHILL, CANADA

MARCH 1958

Commercial-Standard-Builder, Colo. NBS 490





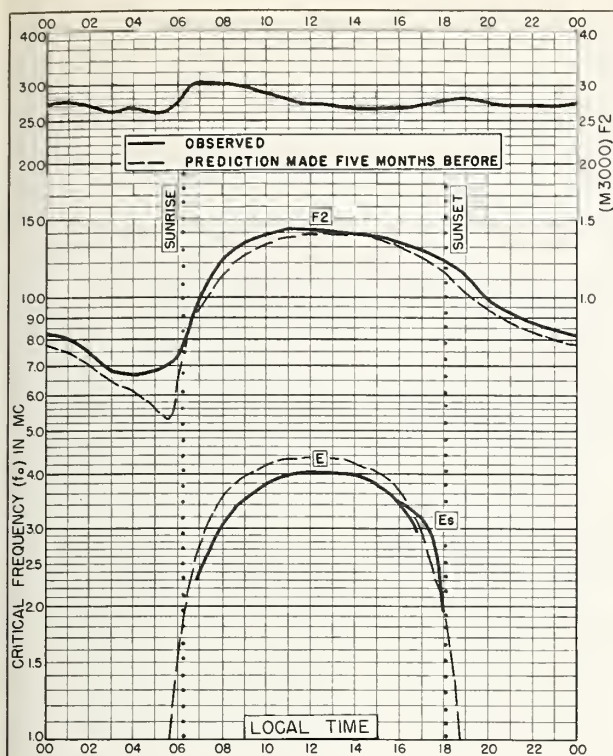


Fig. 49. GRAND BAHAMA I.  
26.6°N, 78.2°W

MARCH 1958

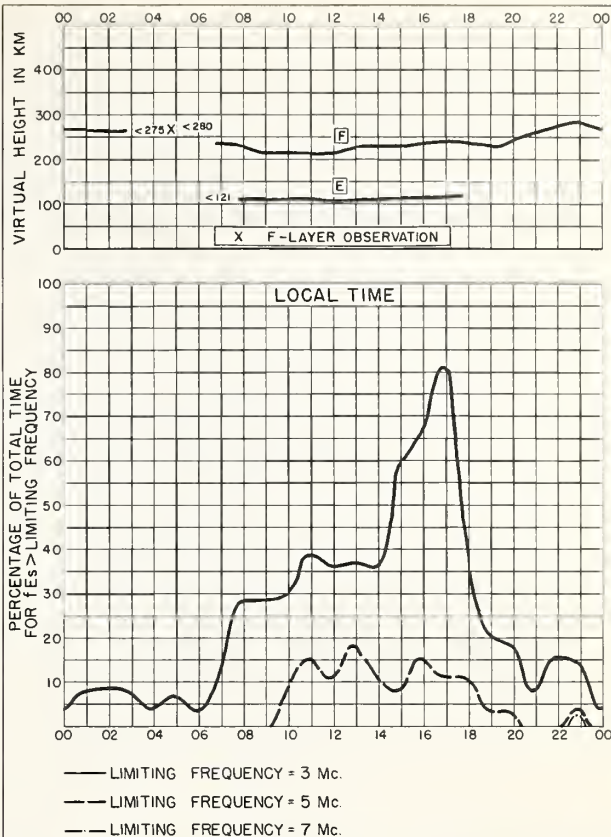


Fig. 50. GRAND BAHAMA I.

MARCH 1958

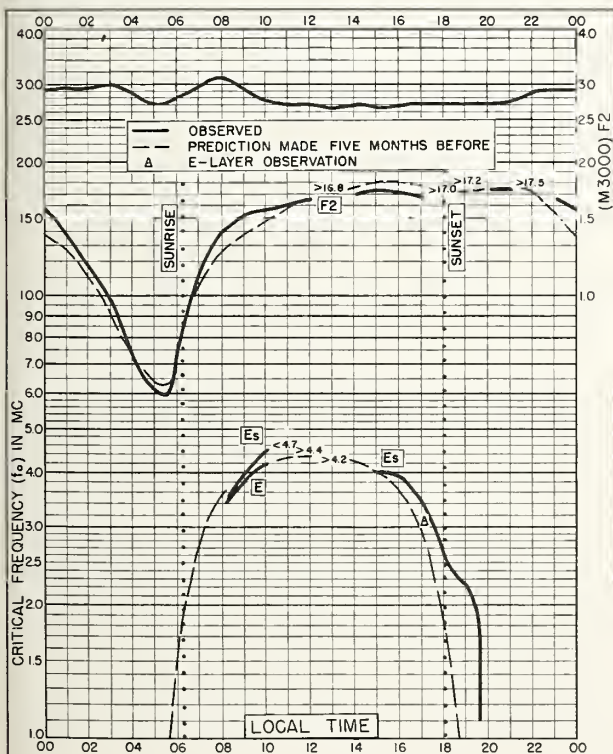


Fig. 51. FORMOSA, CHINA  
25.0°N, 121.5°E

MARCH 1958

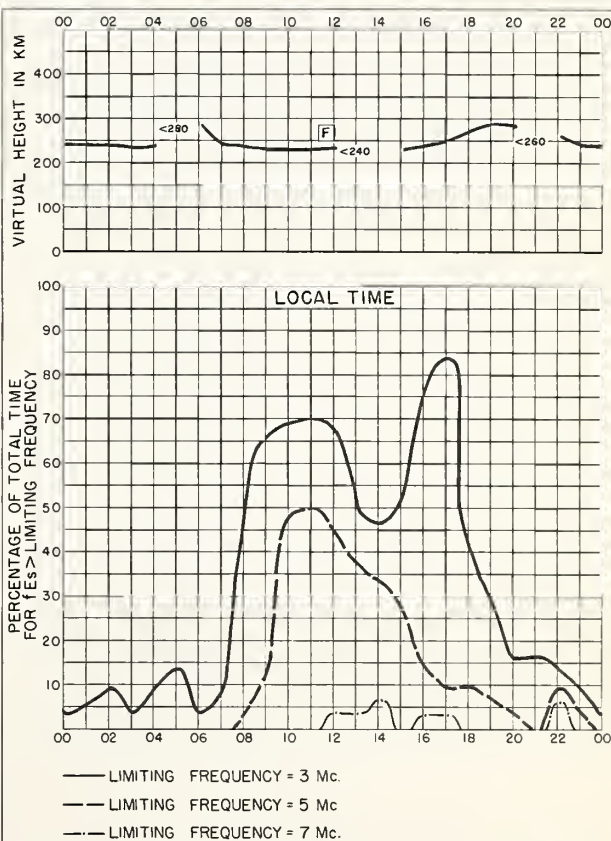


Fig. 52. FORMOSA, CHINA

MARCH 1958

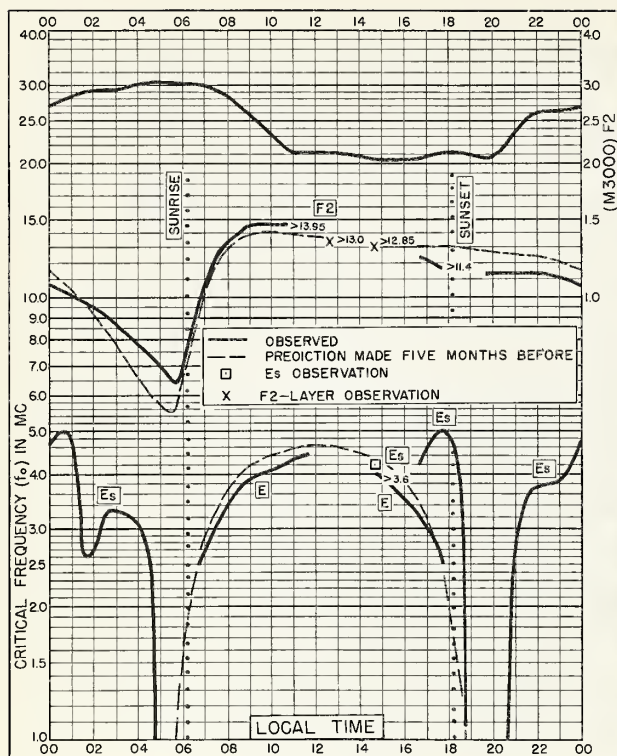


Fig. 53. CHICLAYO, PERU  
6.8°S, 79.8°W

NBS 503

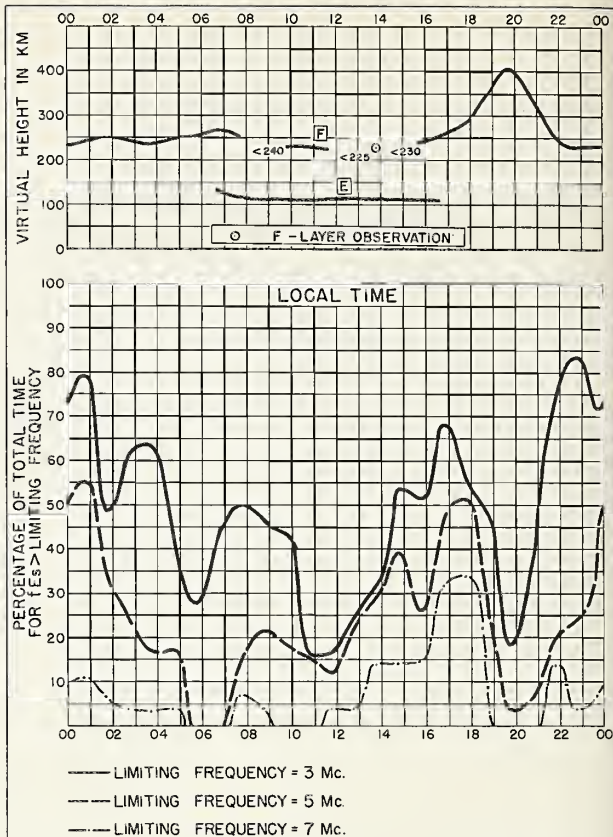


Fig. 54. CHICLAYO, PERU

MARCH 1958

NBS 490

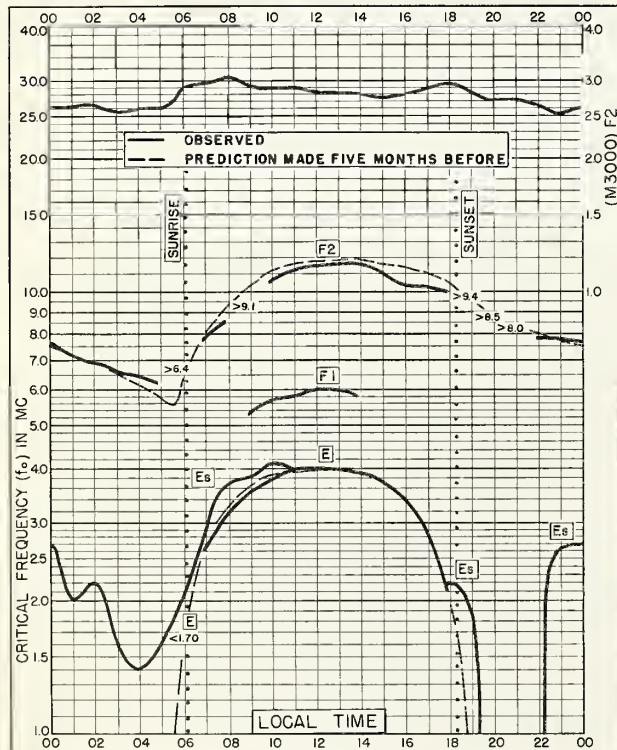


Fig. 55. CANBERRA, AUSTRALIA  
35.3°S, 149.0°E

NBS 503

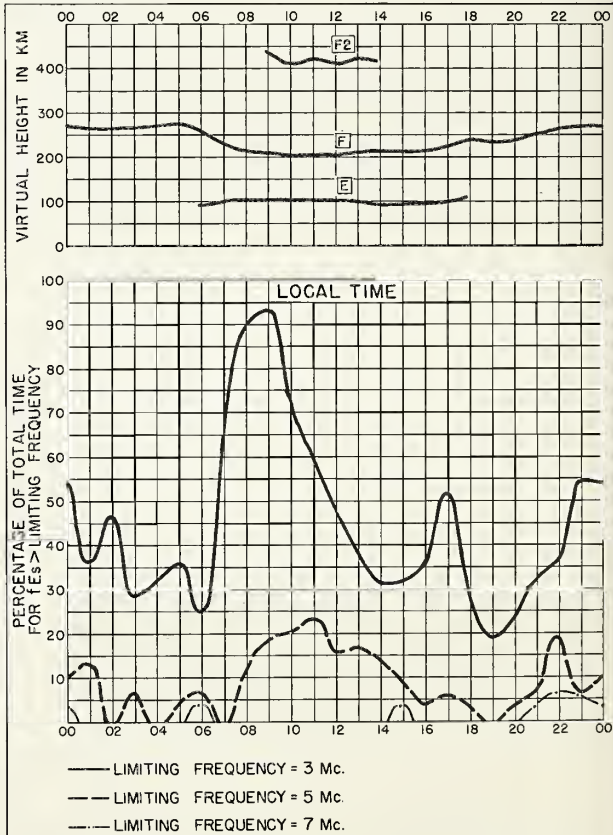


Fig. 56. CANBERRA, AUSTRALIA

MARCH 1958

NBS 490



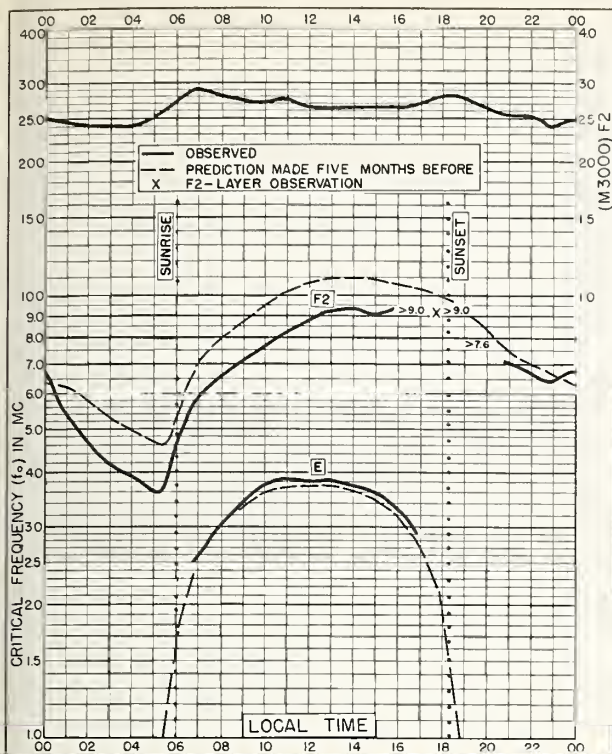


Fig. 57. HOBART, TASMANIA  
42.9°S, 147.2°E

MARCH 1958

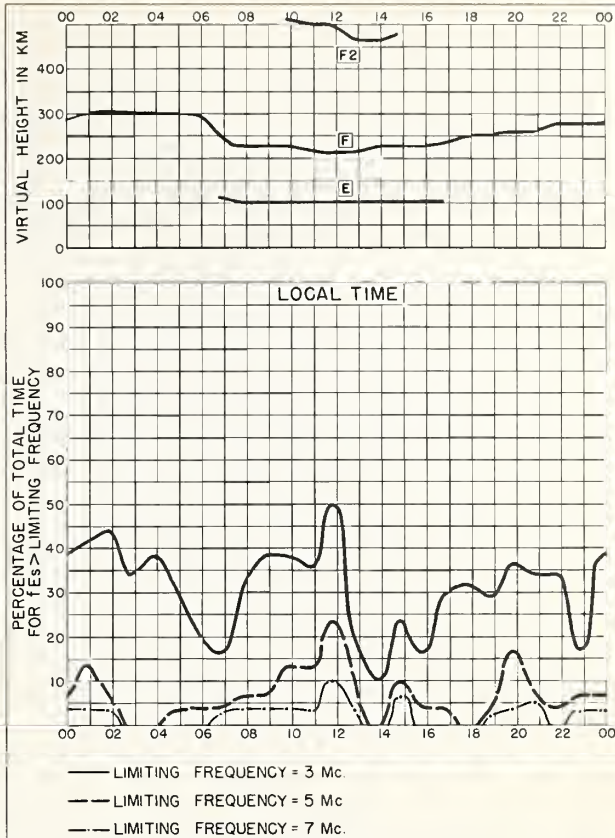


Fig. 58. HOBART, TASMANIA

MARCH 1958

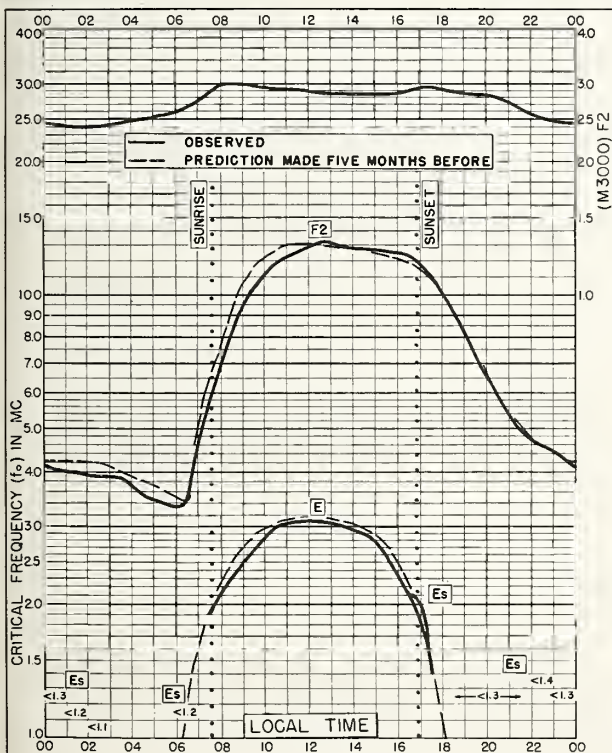


Fig. 59. MOSCOW, U.S.S.R.  
55.5°N, 37.3°E

FEBRUARY 1958

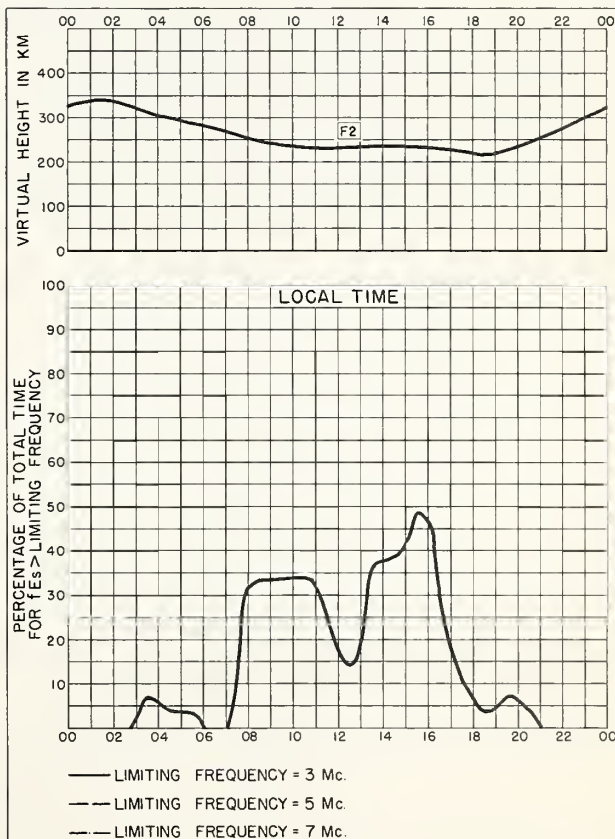


Fig. 60. MOSCOW, U.S.S.R.

FEBRUARY 1958

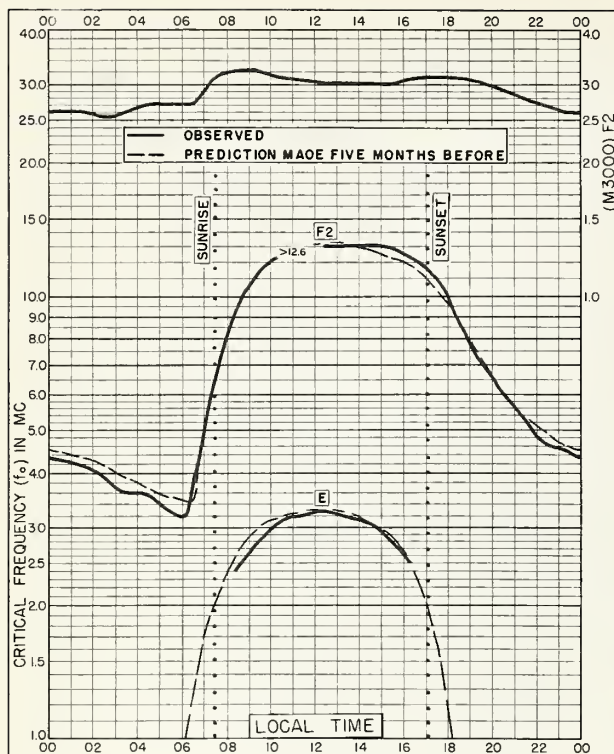


Fig. 61. De BILT, HOLLAND  
52.1°N, 5.2°E FEBRUARY 1958

Continued—Standardized Ionogram, Cals. NBS 503

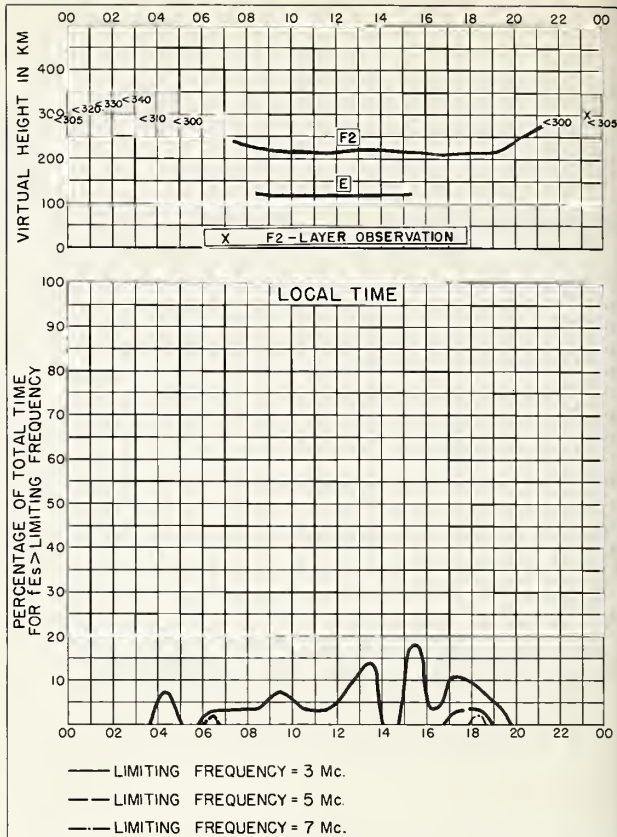


Fig. 62. De BILT, HOLLAND FEBRUARY 1958

Continued—Standardized Ionogram, Cals. NBS 490

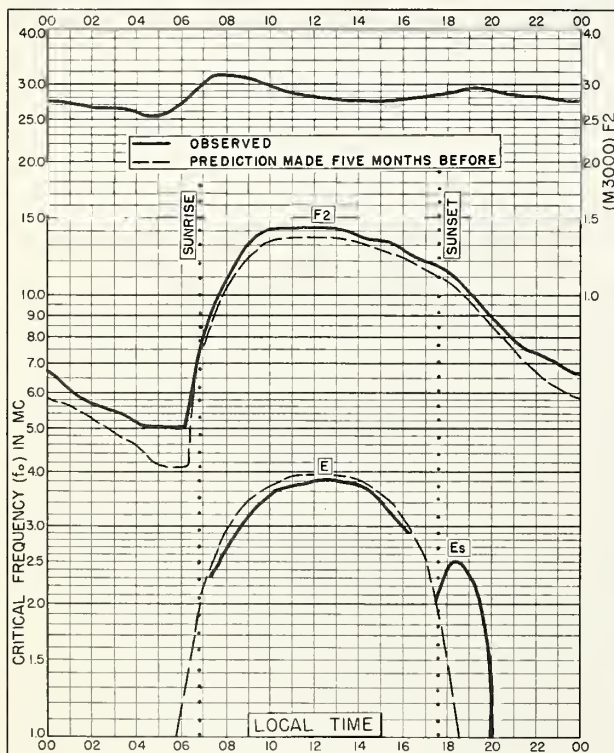


Fig. 63. TOKYO, JAPAN  
35.7°N, 139.5°E FEBRUARY 1958

Continued—Standardized Ionogram, Cals. NBS 503

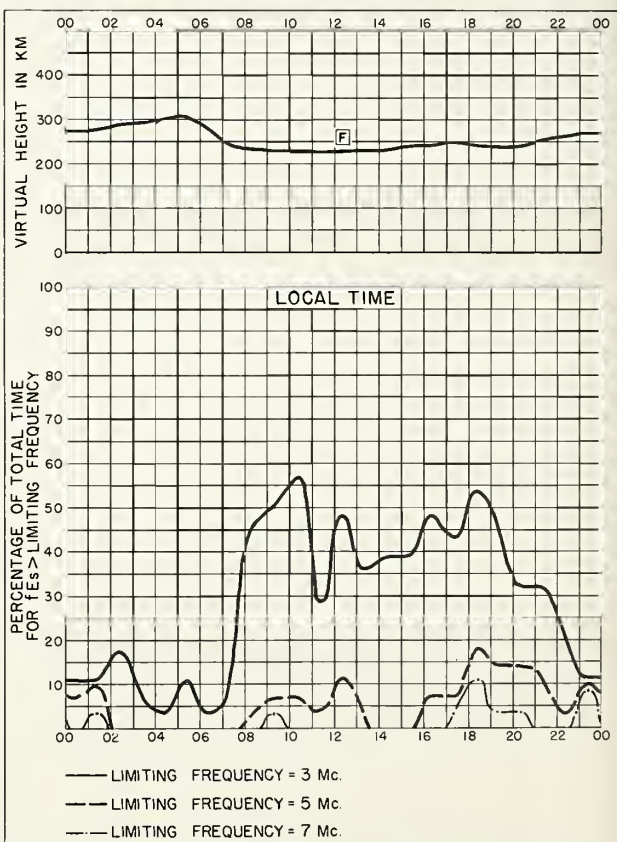


Fig. 64. TOKYO, JAPAN FEBRUARY 1958

Continued—Standardized Ionogram, Cals. NBS 490



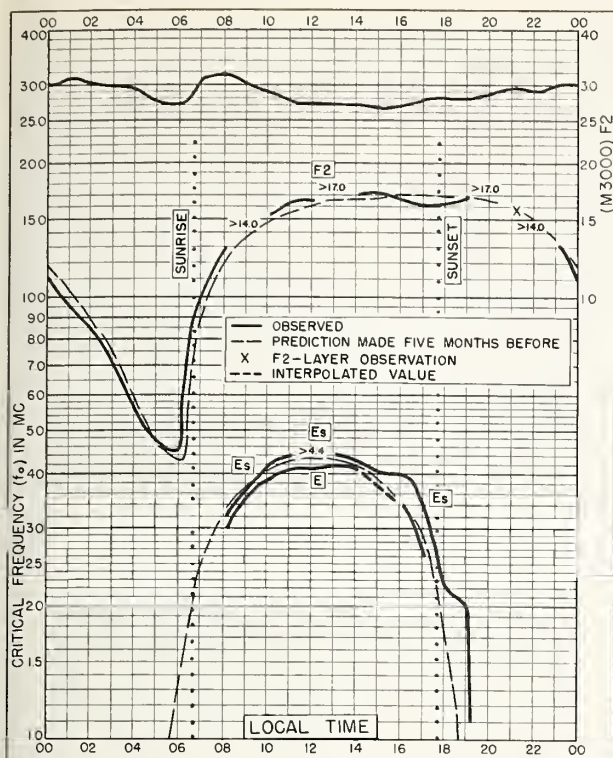


Fig. 65. FORMOSA, CHINA  
25.0°N, 121.5°E

FEBRUARY 1958

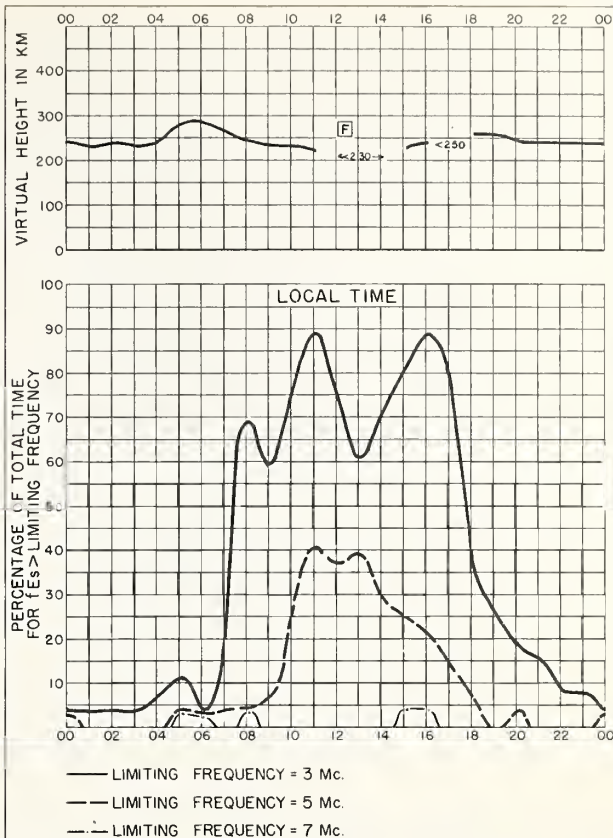


Fig. 66. FORMOSA, CHINA

FEBRUARY 1958

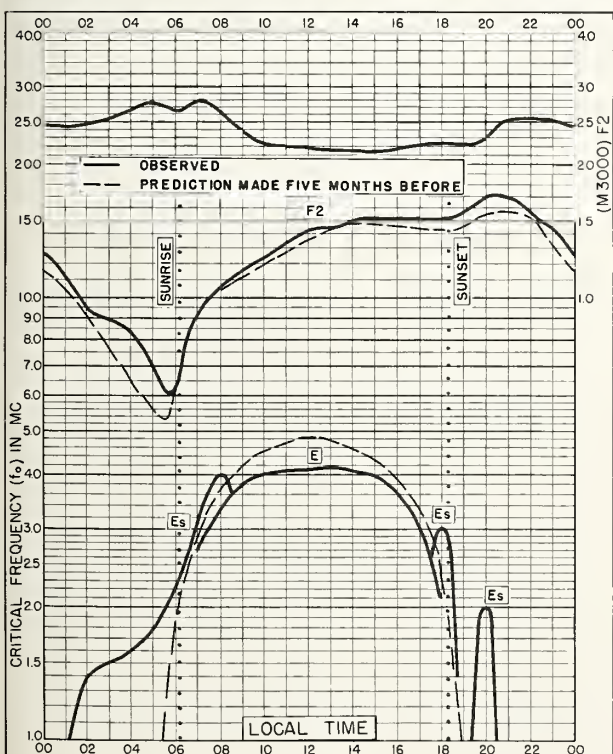


Fig. 67. LEOPOLDVILLE, BELGIAN CONGO  
4.4°S, 15.2°E

FEBRUARY 1958

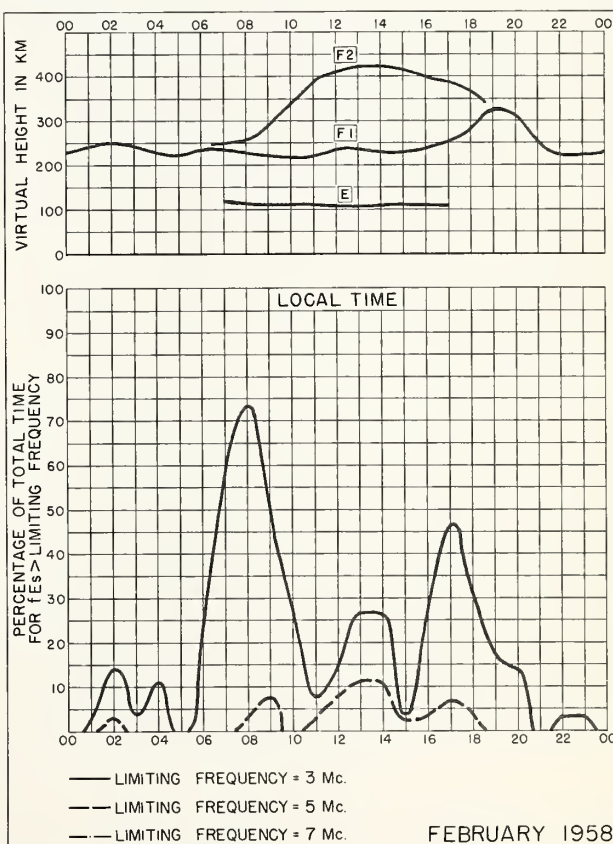


Fig. 68. LEOPOLDVILLE, BELGIAN CONGO

FEBRUARY 1958

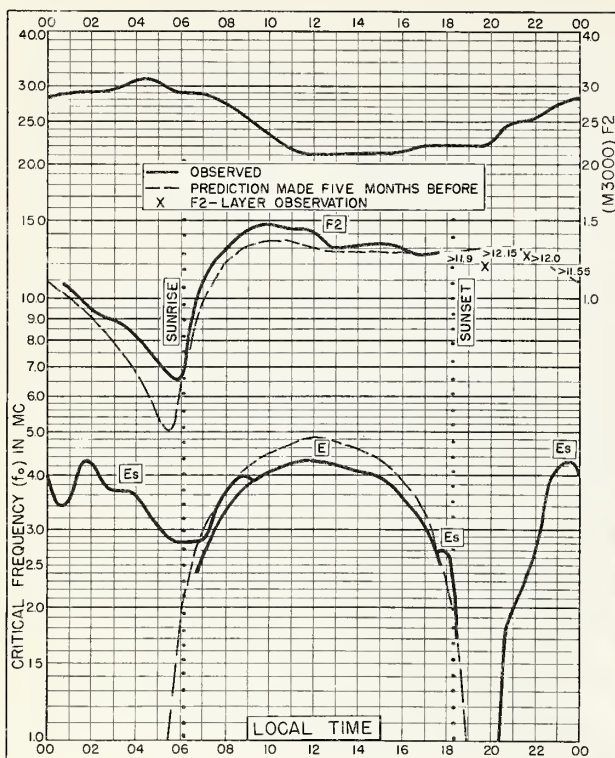


Fig. 69. CHICLAYO, PERU  
6.8°S, 79.8°W

FEBRUARY 1958

NBS 503

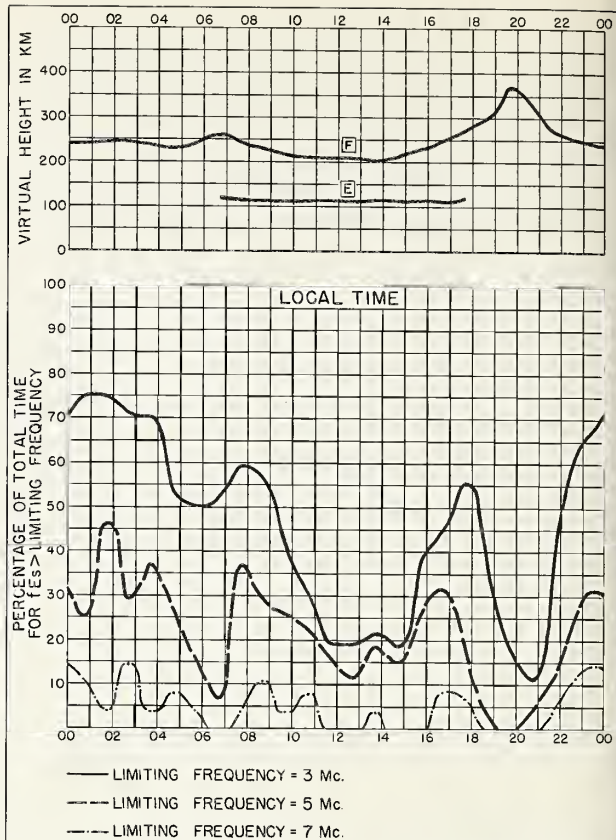


Fig. 70. CHICLAYO, PERU

FEBRUARY 1958

NBS 450

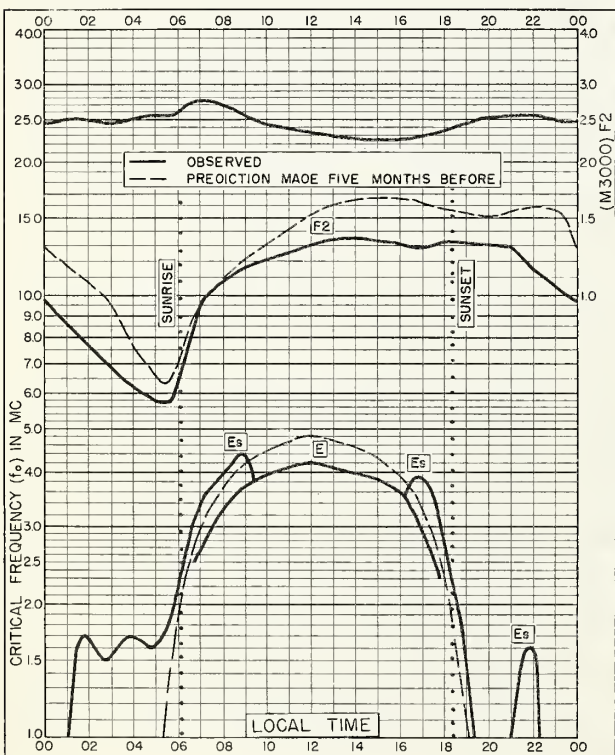


Fig. 71. ELISABETHVILLE, BELGIAN CONGO  
11.6°S, 27.5°E

FEBRUARY 1958

NBS 503

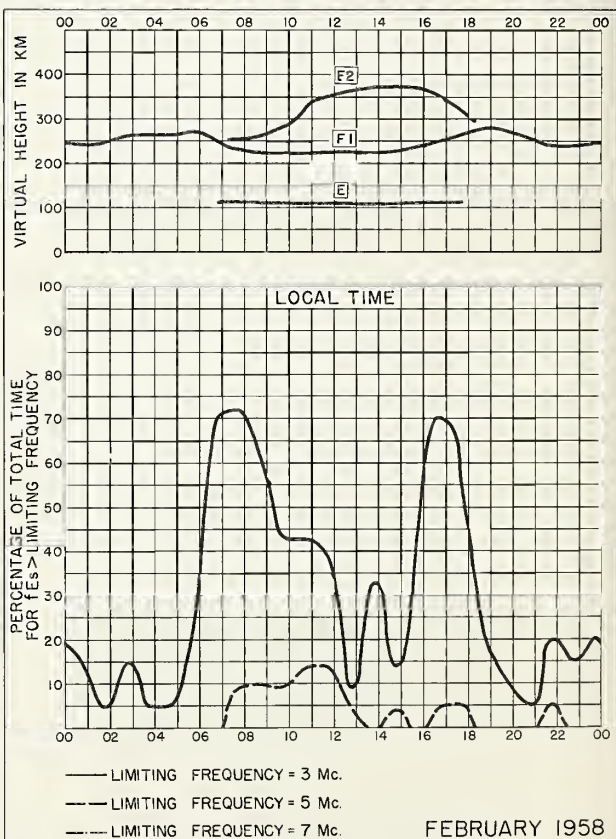


Fig. 72. ELISABETHVILLE, BELGIAN CONGO

FEBRUARY 1958

NBS 450



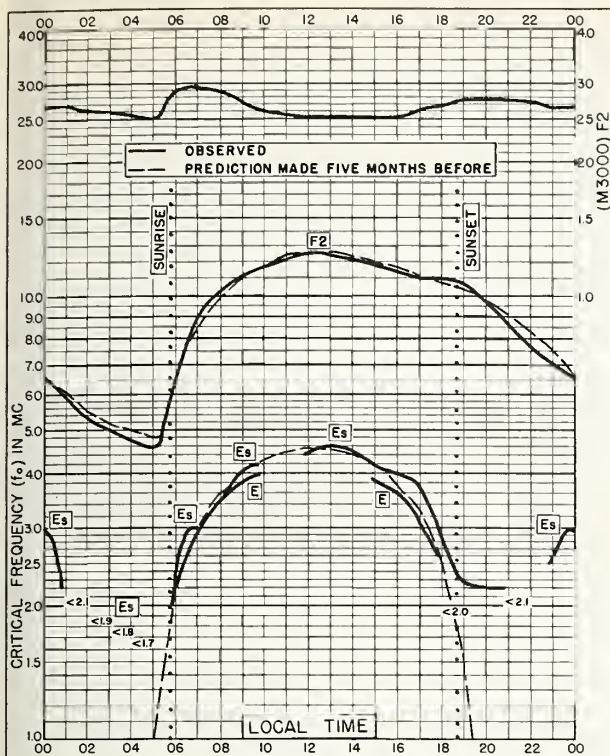


Fig. 73. JOHANNESBURG, UNION OF S. AFRICA  
26.2°S, 28.0°E  
FEBRUARY 1958

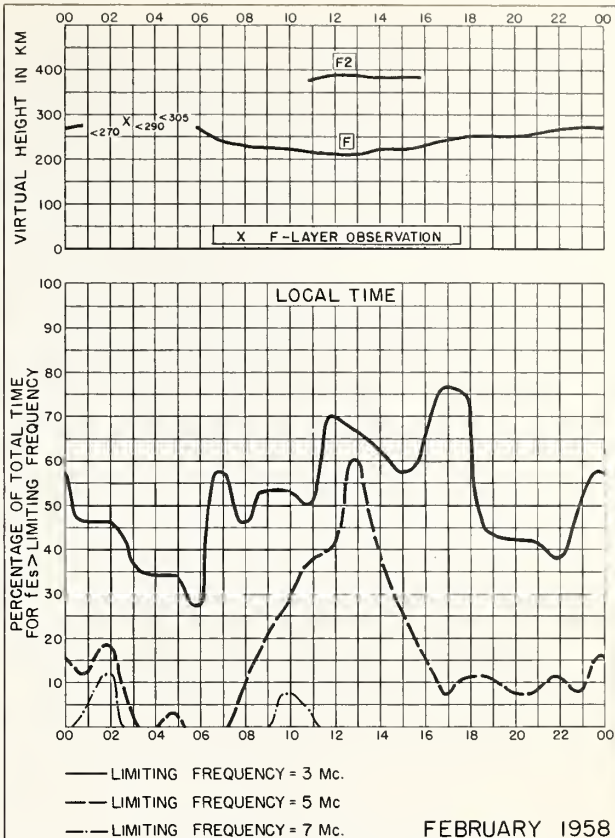


Fig. 74. JOHANNESBURG, UNION OF S. AFRICA  
FEBRUARY 1958

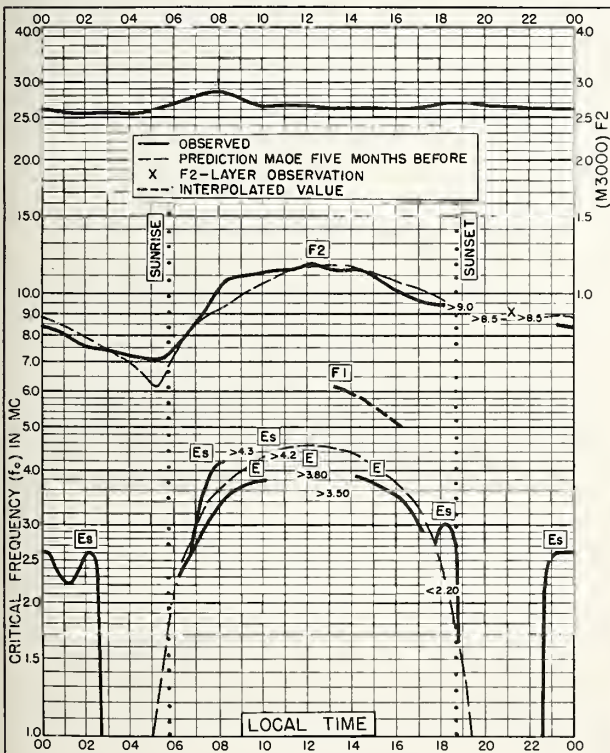


Fig. 75. BRISBANE, AUSTRALIA  
27.5°S, 152.9°E  
FEBRUARY 1958

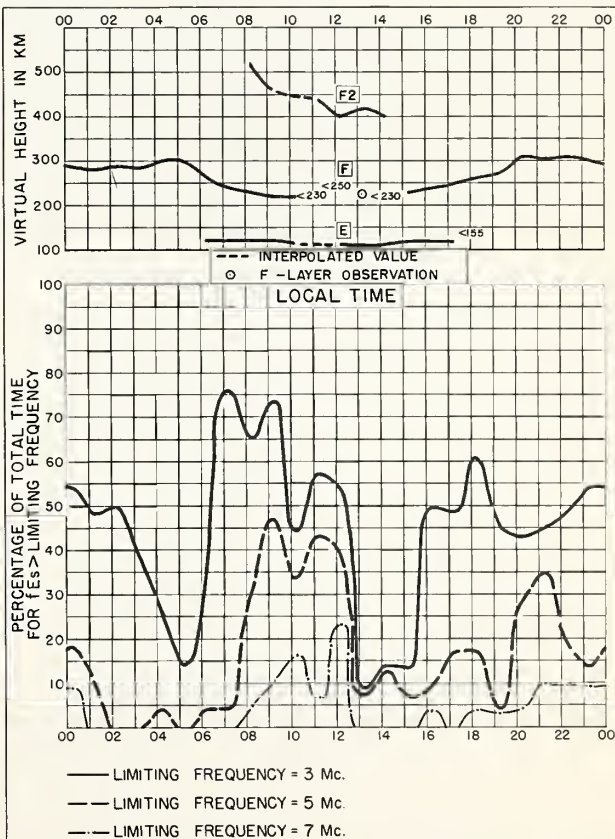


Fig. 76. BRISBANE, AUSTRALIA  
FEBRUARY 1958

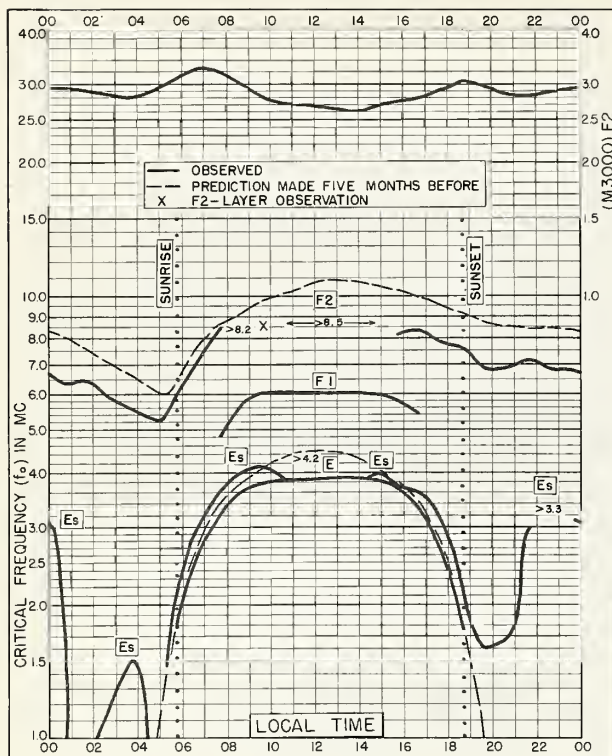


Fig. 77. WATHEROO, W. AUSTRALIA  
30.3°S, 115.9°E FEBRUARY 1958

Compass-Standard-Boulder, Colo.

NBS 503

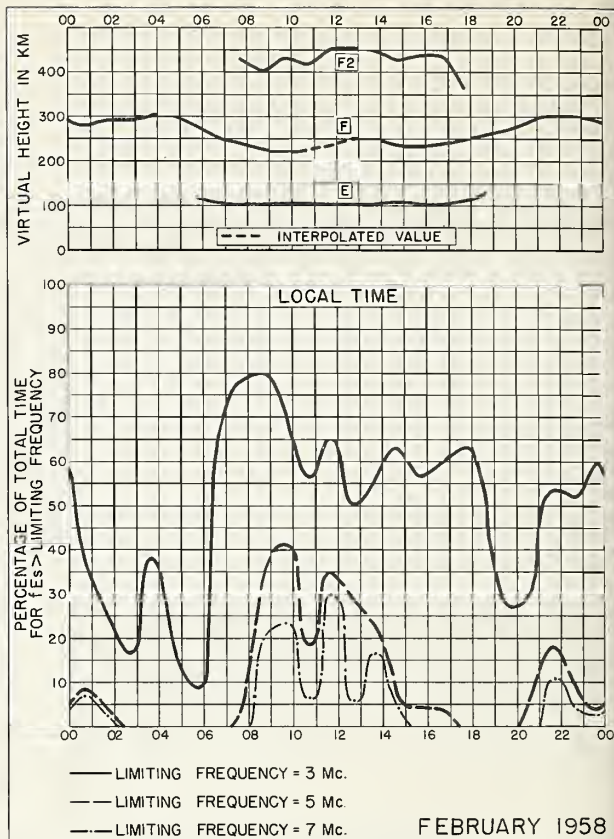


Fig. 78. WATHEROO, W. AUSTRALIA

Compass-Standard-Boulder, Colo.

NBS 490

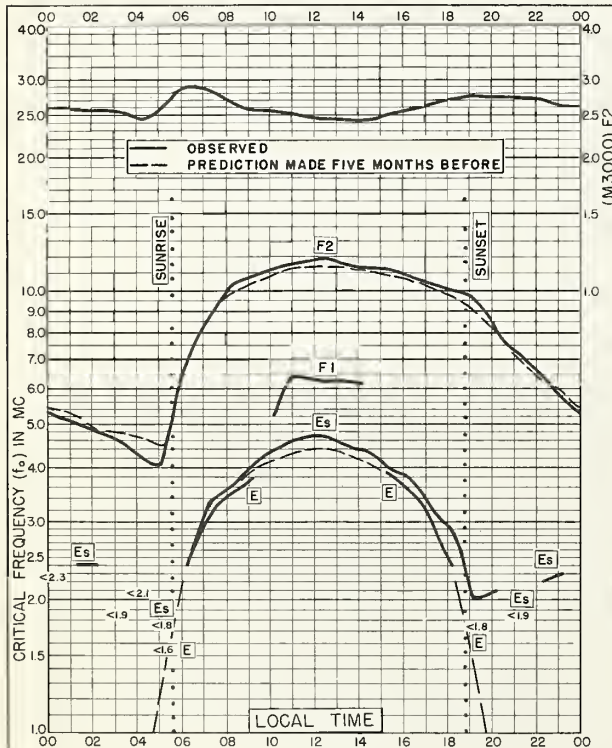


Fig. 79. CAPETOWN, UNION OF S. AFRICA  
34.1°S, 18.3°E FEBRUARY 1958

Compass-Standard-Boulder, Colo.

NBS 503

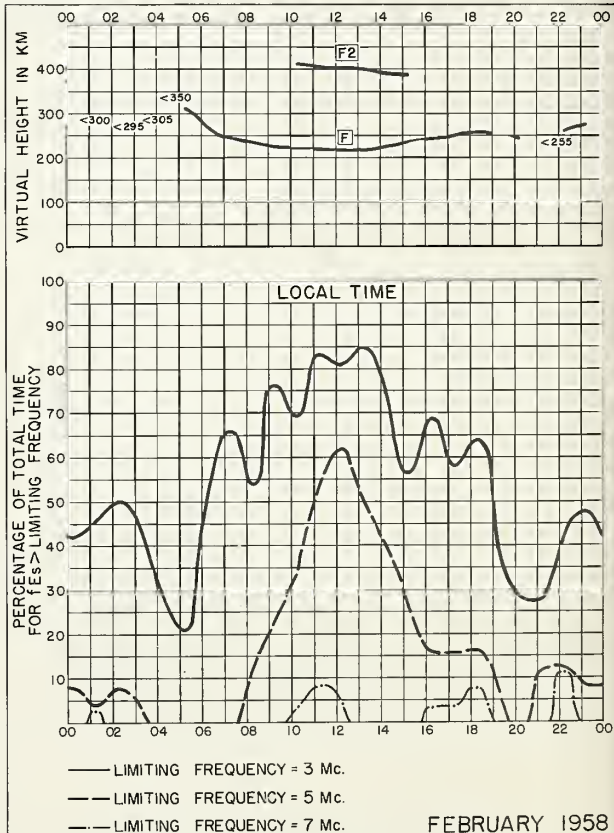


Fig. 80. CAPETOWN, UNION OF S. AFRICA

Compass-Standard-Boulder, Colo.

NBS 490



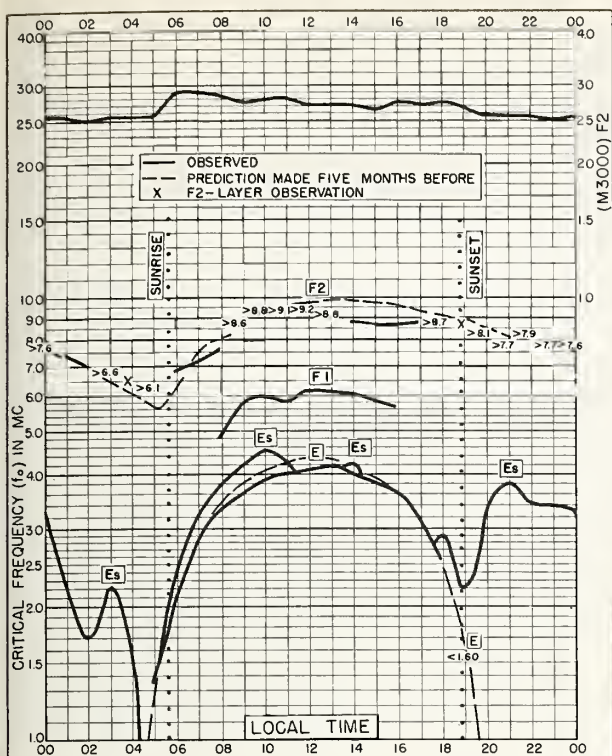


Fig. 81. CANBERRA, AUSTRALIA  
35.3°S, 149.0°E FEBRUARY 1958

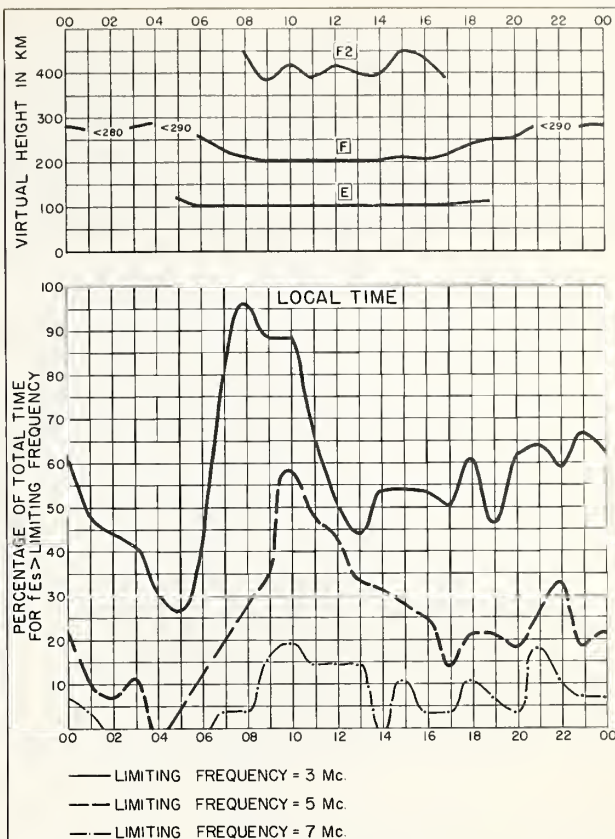


Fig. 82. CANBERRA, AUSTRALIA FEBRUARY 1958

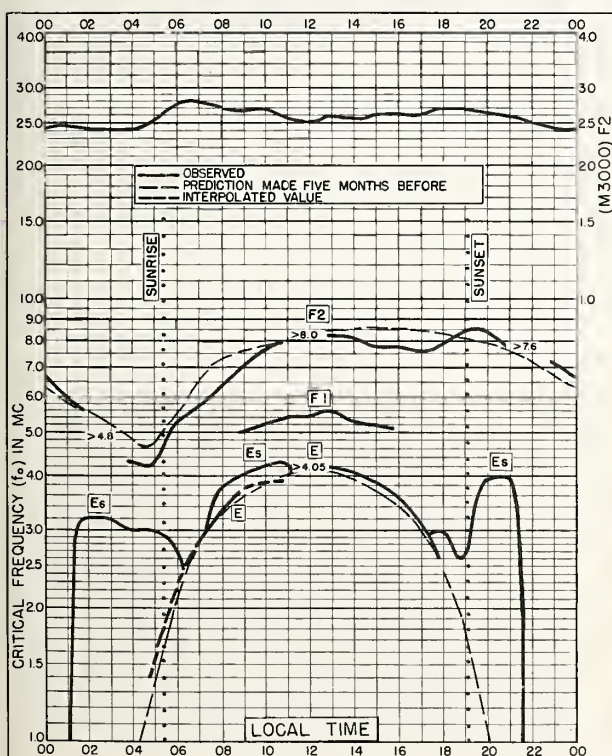


Fig. 83. HOBART, TASMANIA  
42.9°S, 147.2°E FEBRUARY 1958

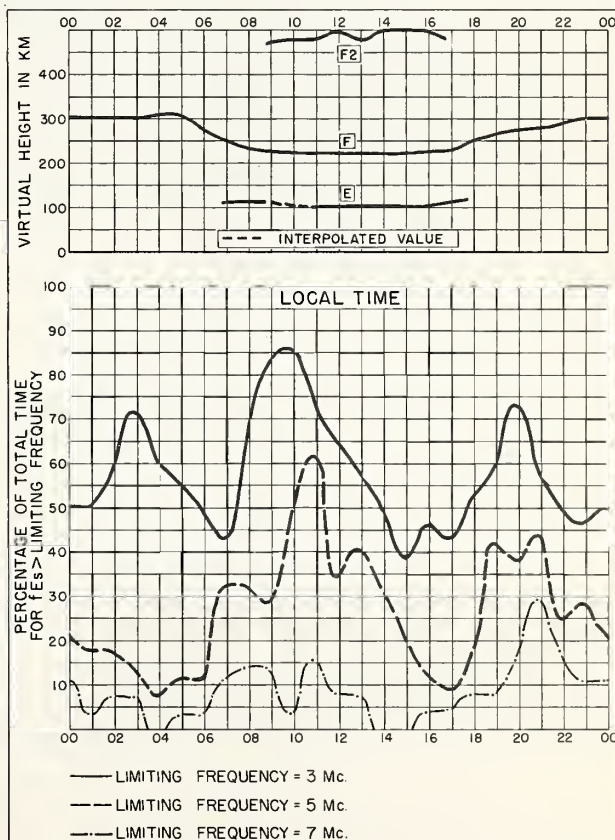


Fig. 84. HOBART, TASMANIA FEBRUARY 1958

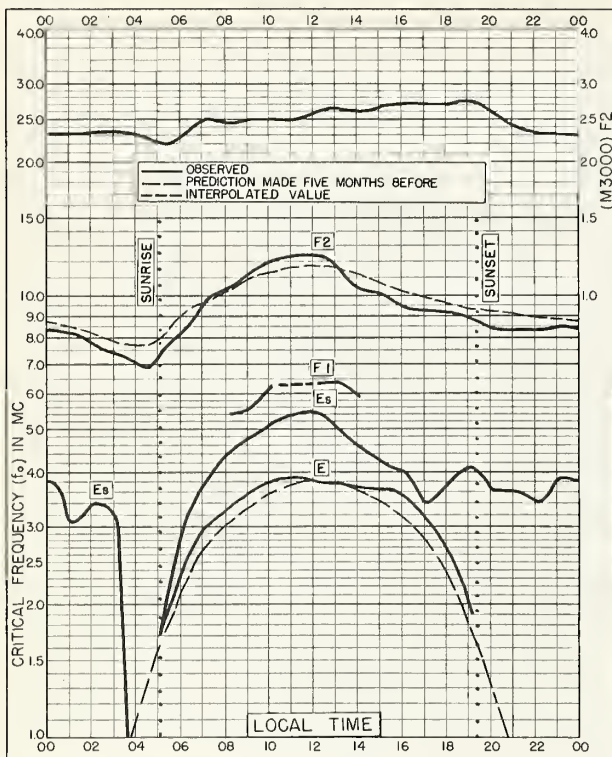


Fig. 85. FALKLAND IS.  
51.7°S, 57.8°W FEBRUARY 1958

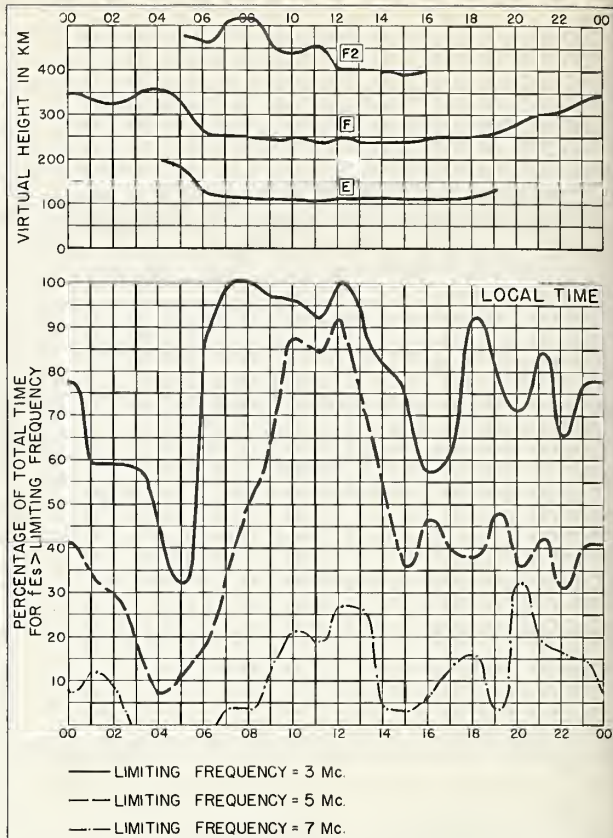


Fig. 86. FALKLAND IS. FEBRUARY 1958

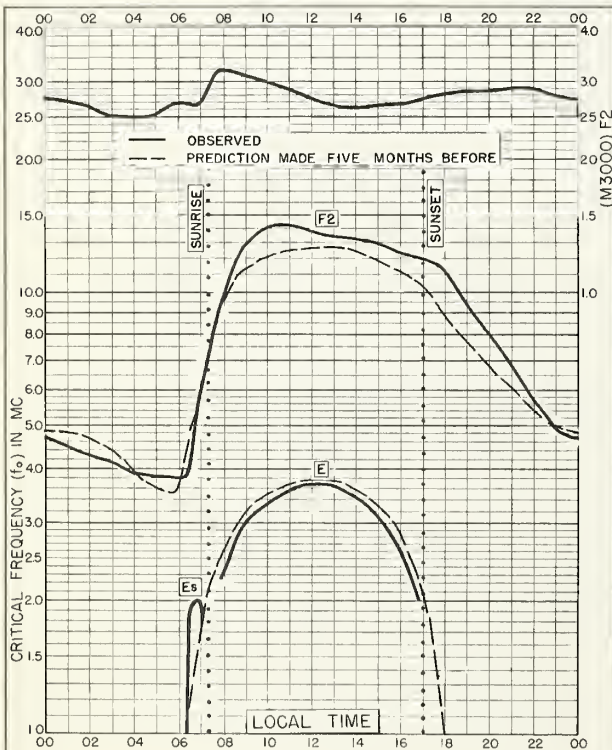


Fig. 87. SAN FRANCISCO, CALIFORNIA  
37.4°N, 122.2°W JANUARY 1958

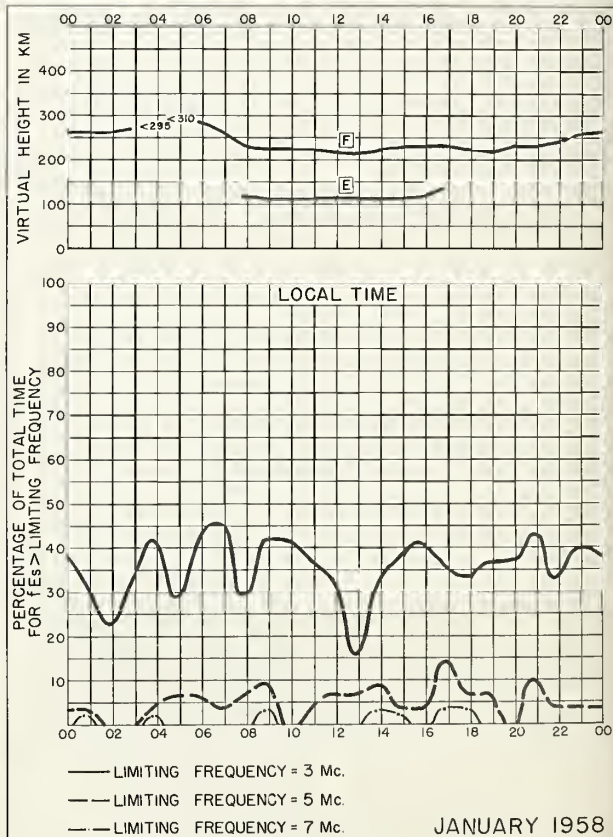


Fig. 88. SAN FRANCISCO, CALIFORNIA JANUARY 1958



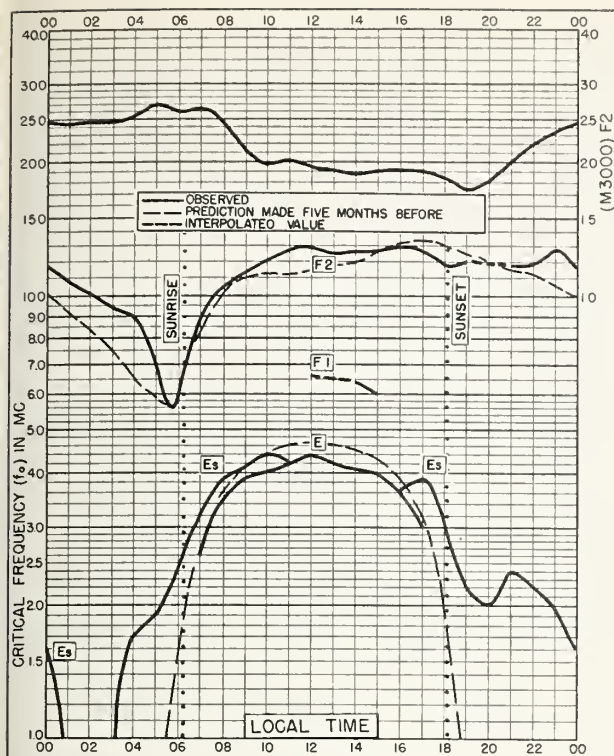


Fig. 89. BUNIA, BELGIAN CONGO  
1.5°N, 30.2°E

JANUARY 1958

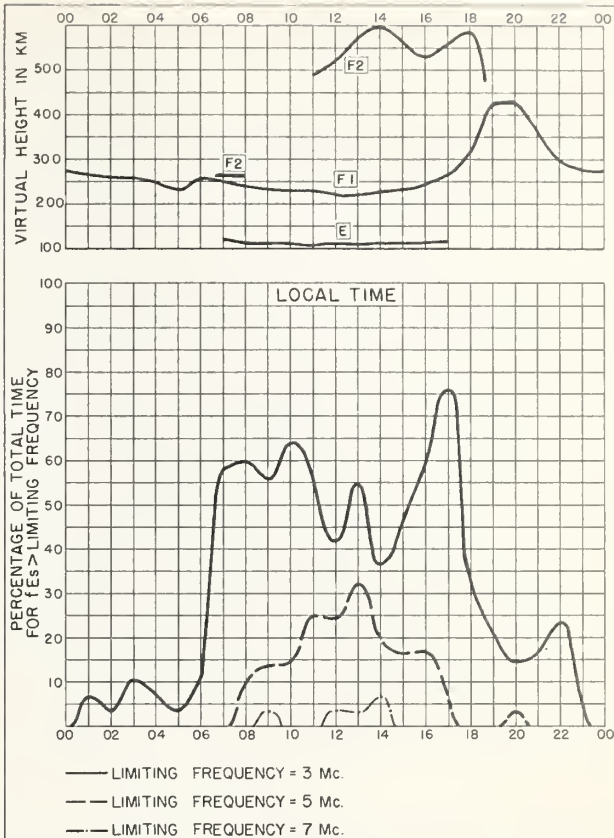


Fig. 90. BUNIA, BELGIAN CONGO

JANUARY 1958

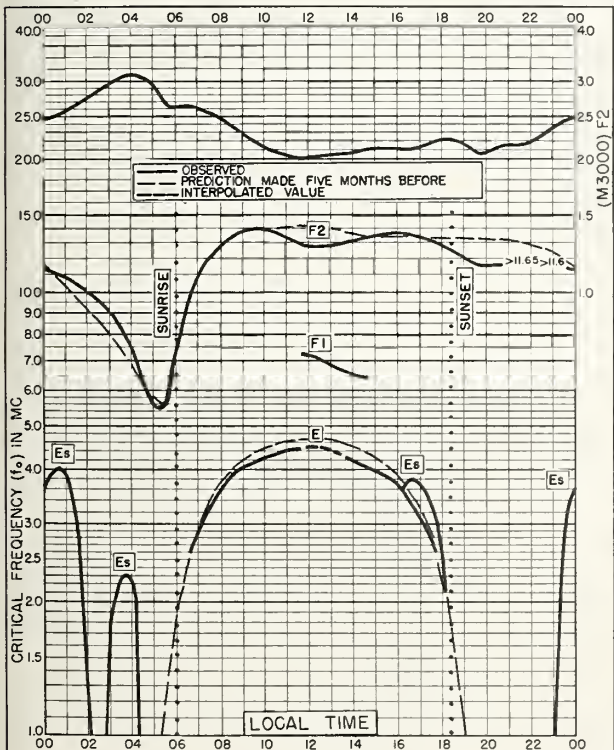


Fig. 91. CHICLAYO, PERU  
6.8°S, 79.8°W

JANUARY 1958

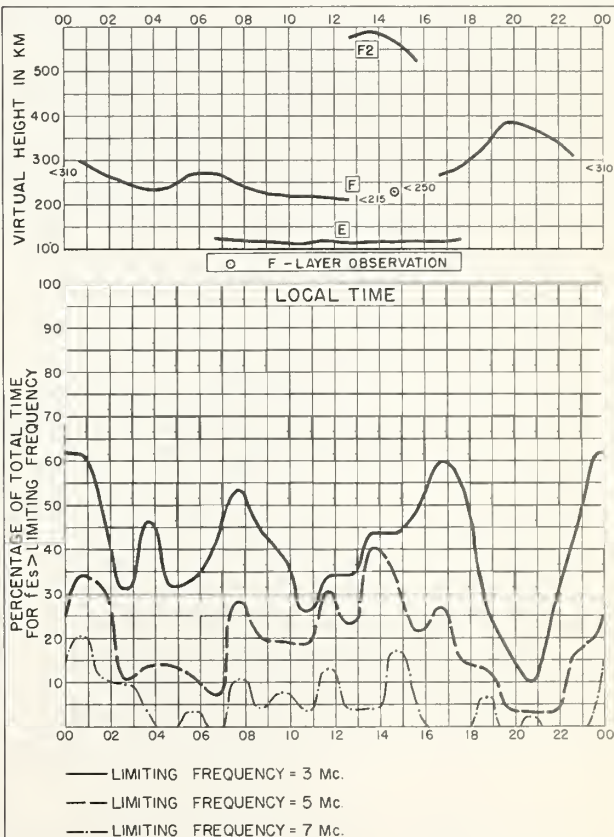
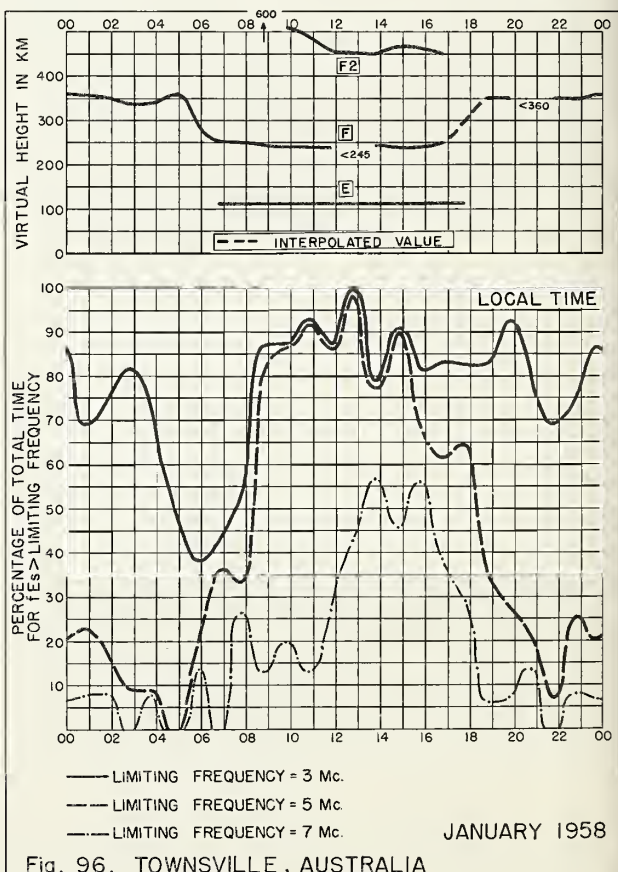
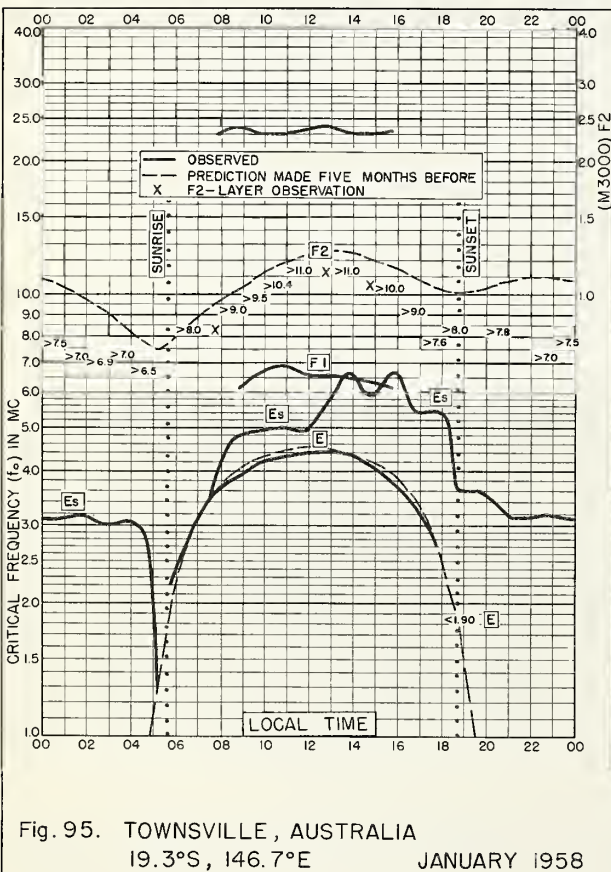
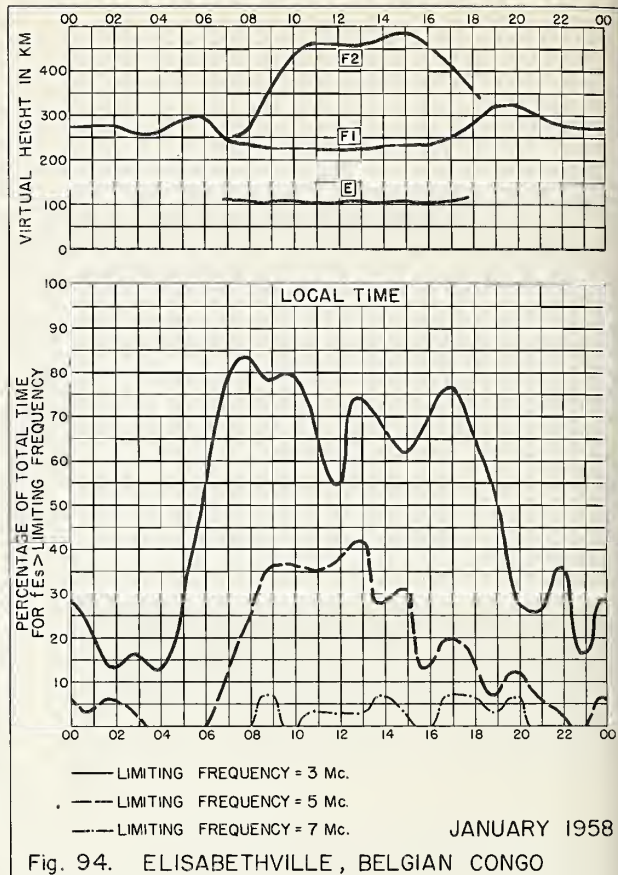
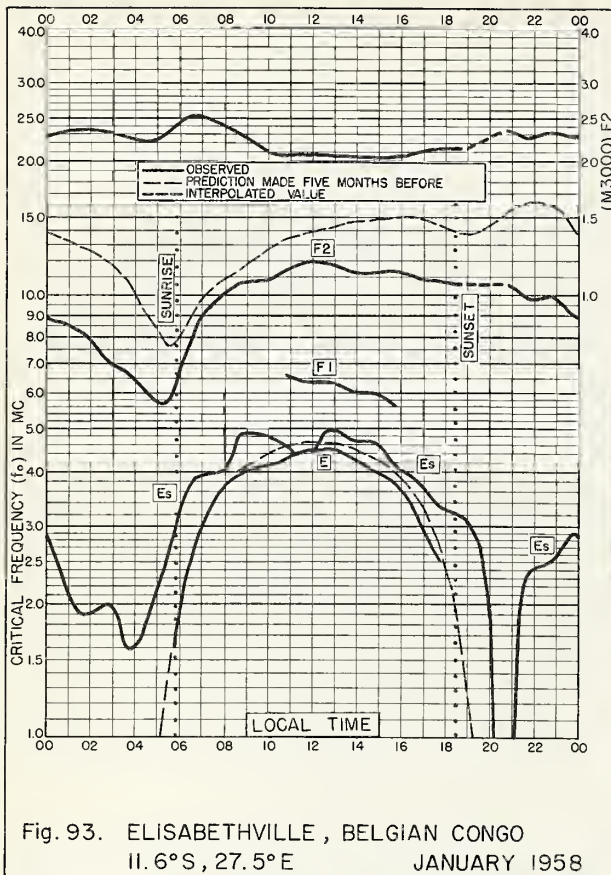


Fig. 92. CHICLAYO, PERU

JANUARY 1958





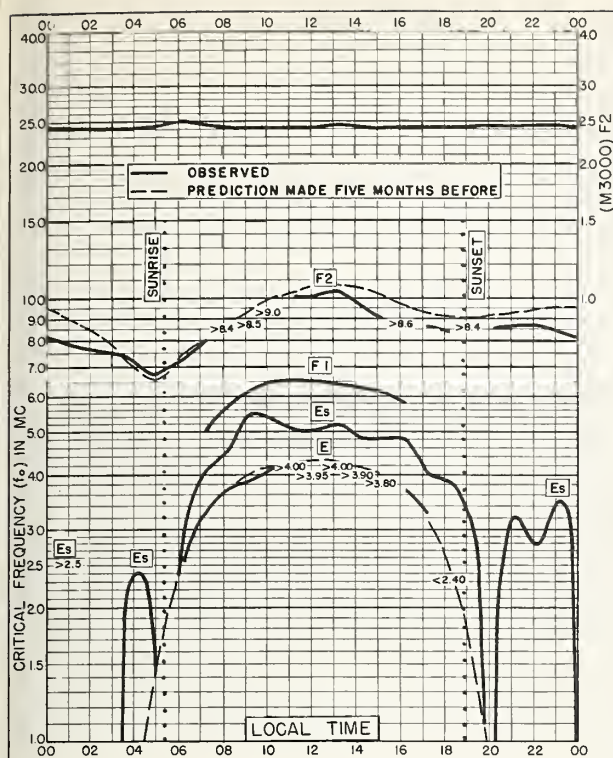


Fig. 97. BRISBANE, AUSTRALIA  
27.5°S, 152.9°E

JANUARY 1958

NBS 503

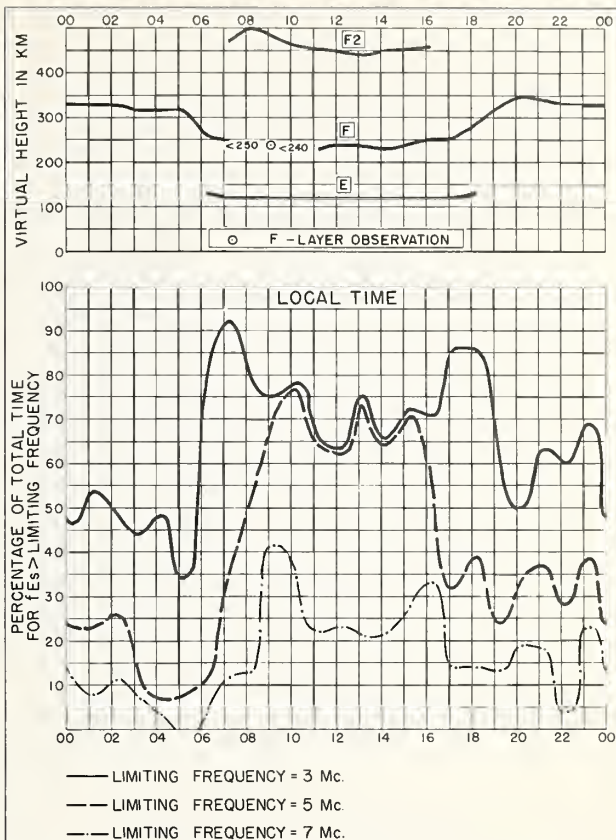


Fig. 98. BRISBANE, AUSTRALIA

JANUARY 1958

NBS 490

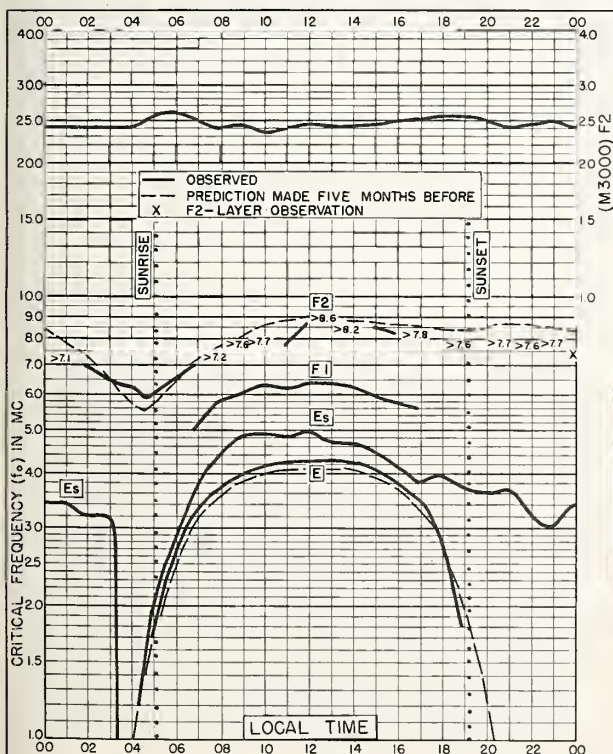


Fig. 99. CANBERRA, AUSTRALIA  
35.3°S, 149.0°E

JANUARY 1958

NBS 503

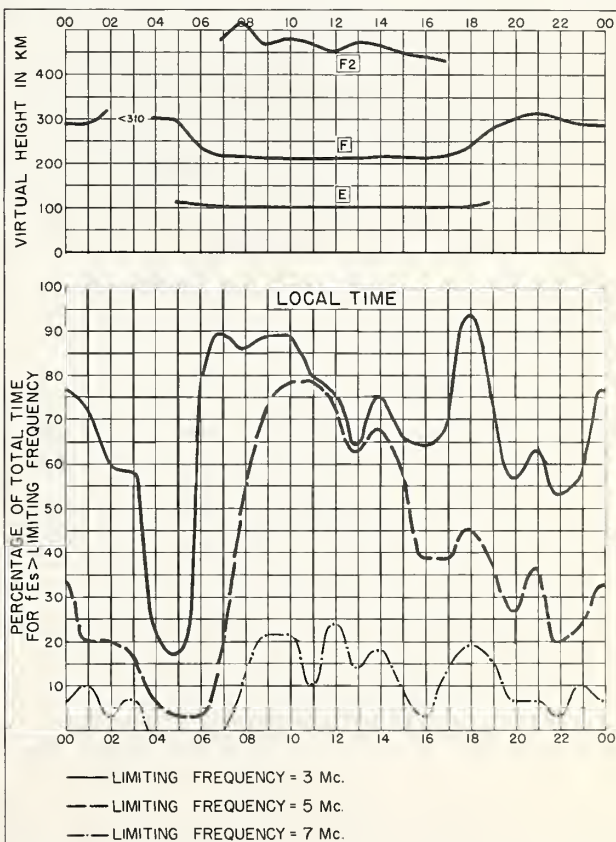


Fig. 100. CANBERRA, AUSTRALIA

JANUARY 1958

NBS 490



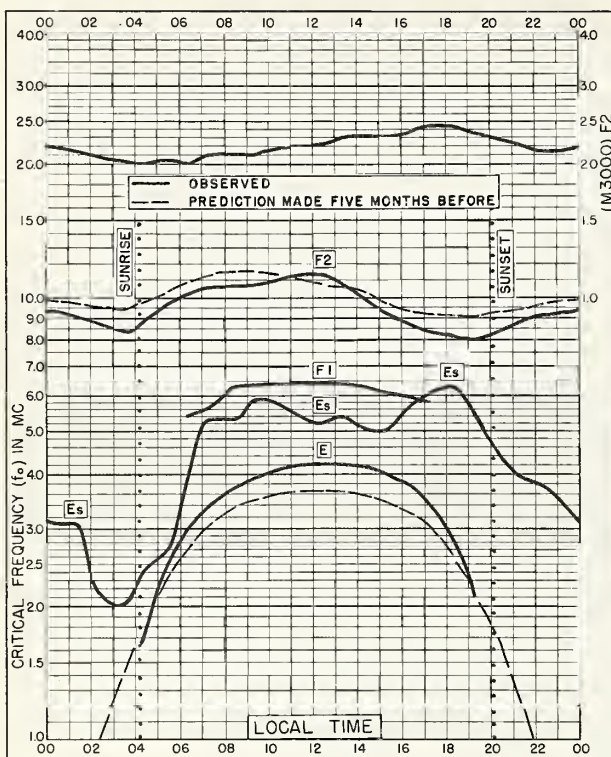


Fig. 101. FALKLAND IS.  
51.7°S, 57.8°W

JANUARY 1958

Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia

NBS 503

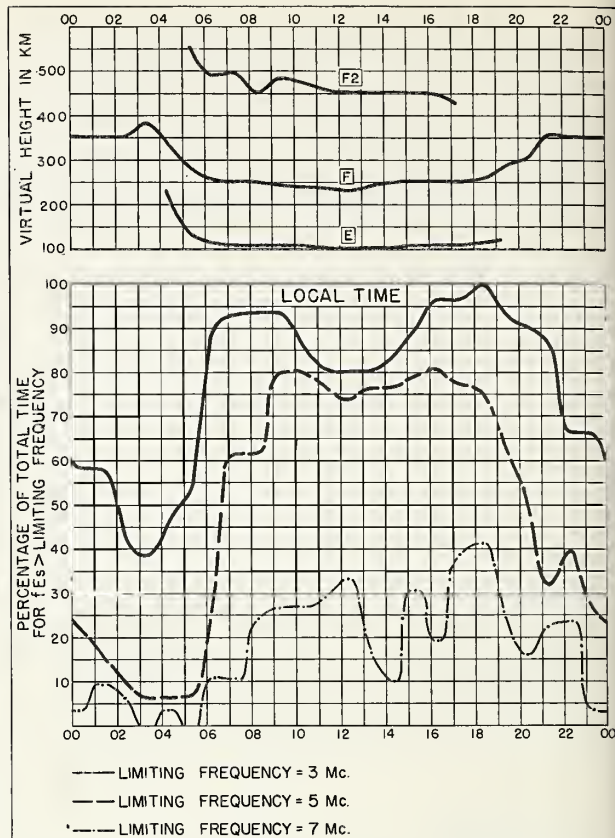


Fig. 102. FALKLAND IS.

JANUARY 1958

Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia

NBS 490

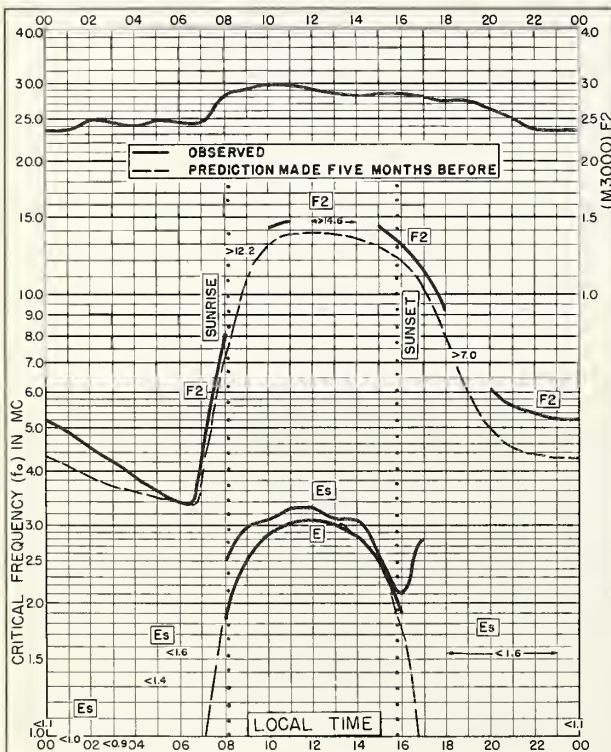


Fig. 103. SLOUGH, ENGLAND  
51.5°N, 0.6°W

DECEMBER 1957

Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia

NBS 503

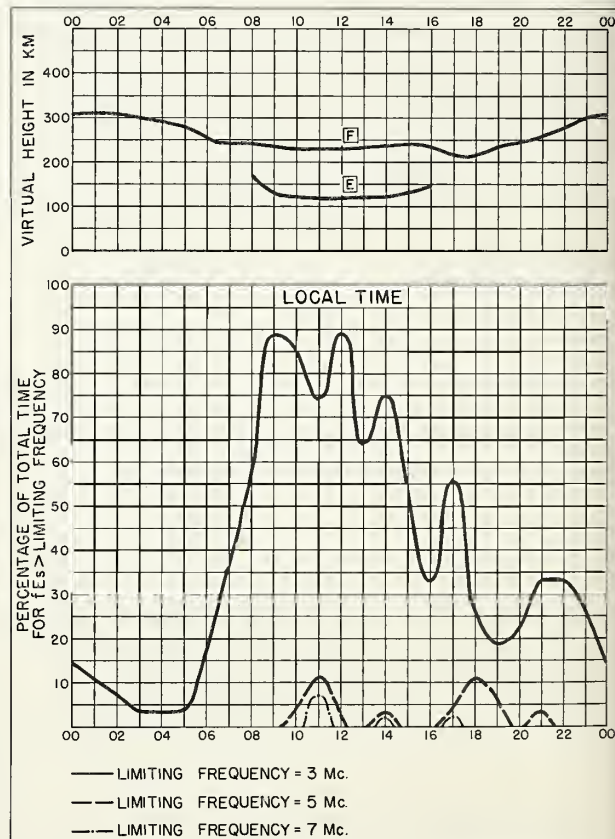


Fig. 104. SLOUGH, ENGLAND

DECEMBER 1957

Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia

NBS 490

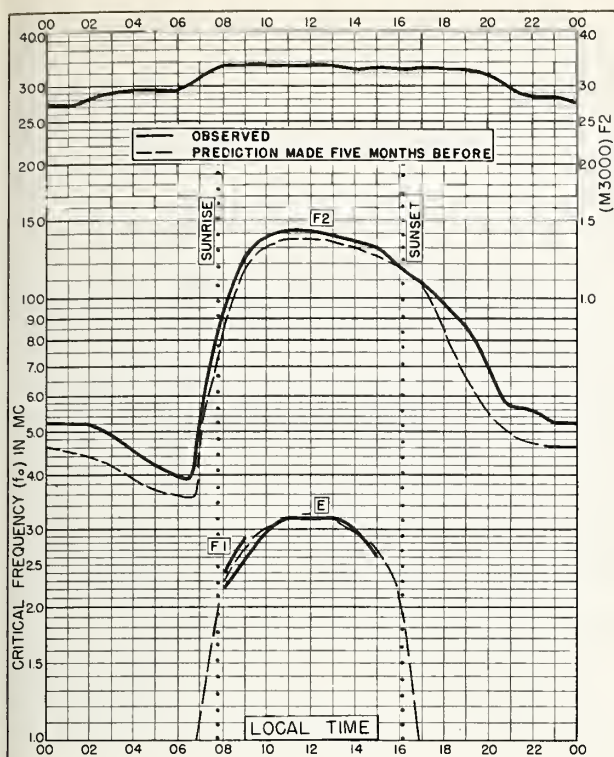


Fig. 105. BUDAPEST, HUNGARY  
47.4°N, 19.2°E

DECEMBER 1957

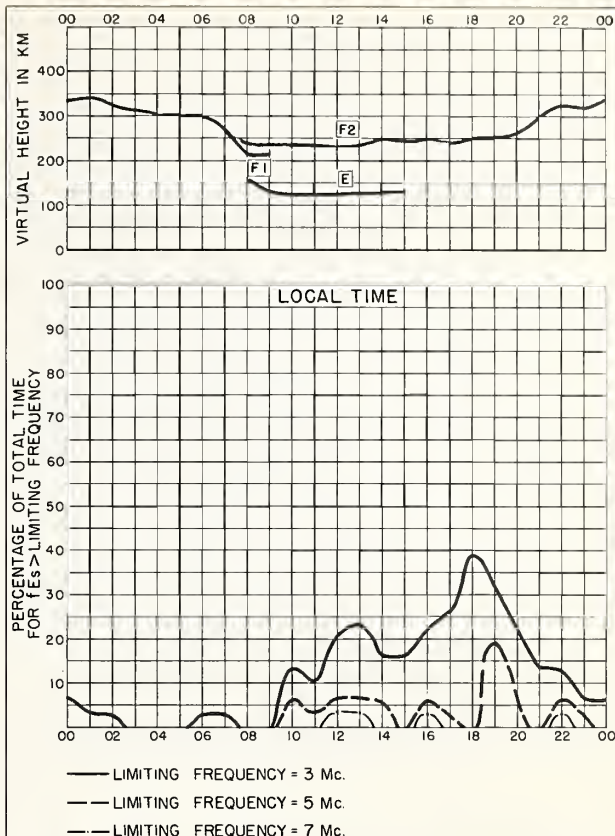


Fig. 106. BUDAPEST, HUNGARY

DECEMBER 1957

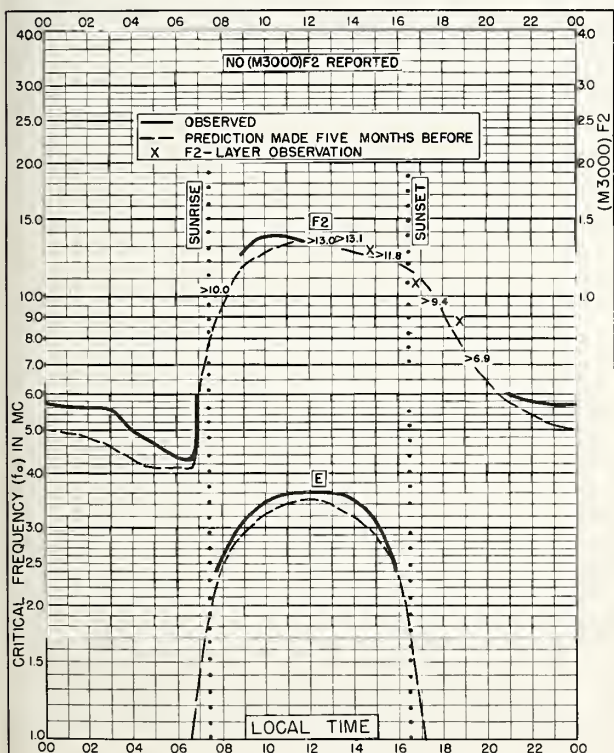


Fig. 107. ROME, ITALY  
41.8°N, 12.5°E

DECEMBER 1957

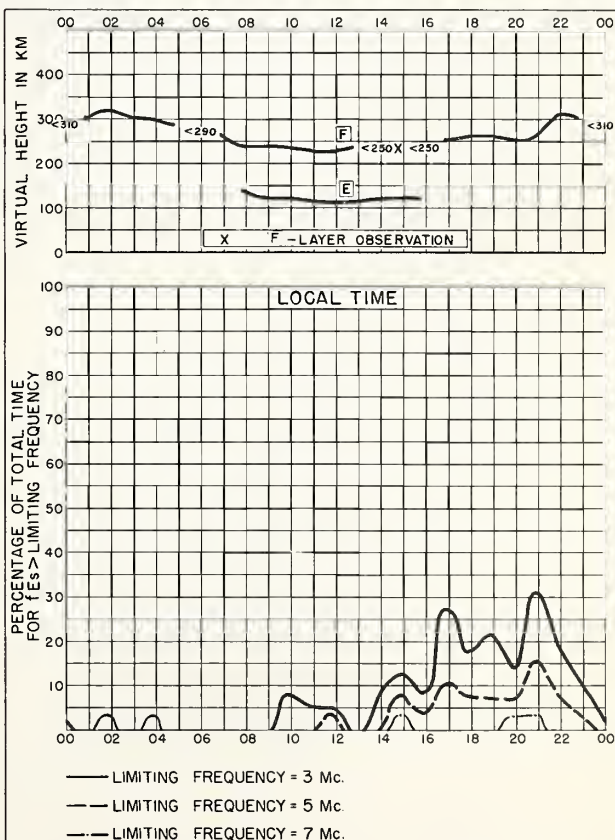
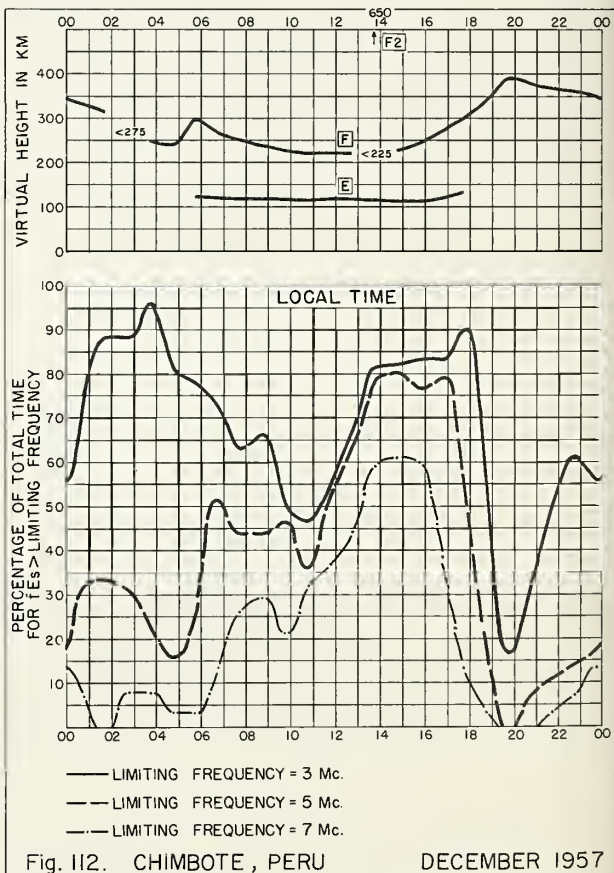
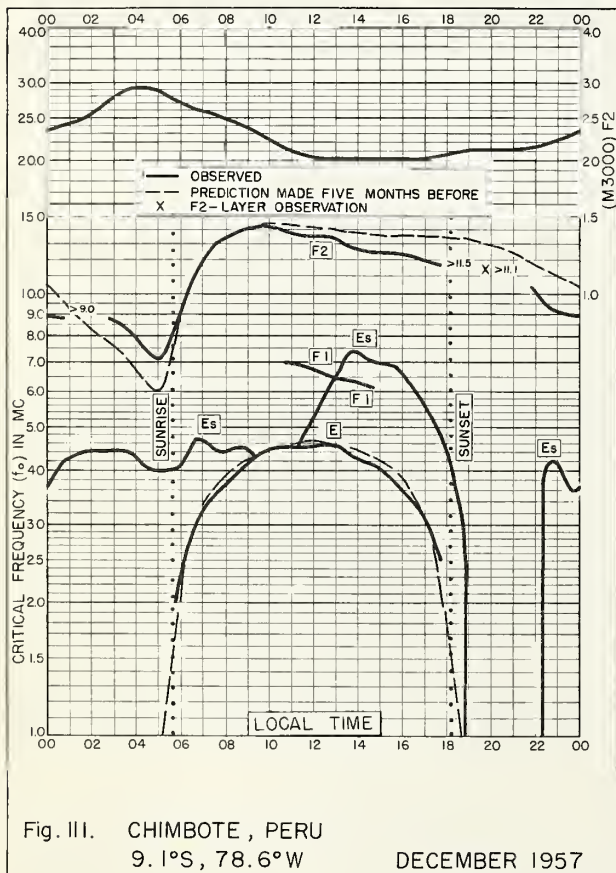
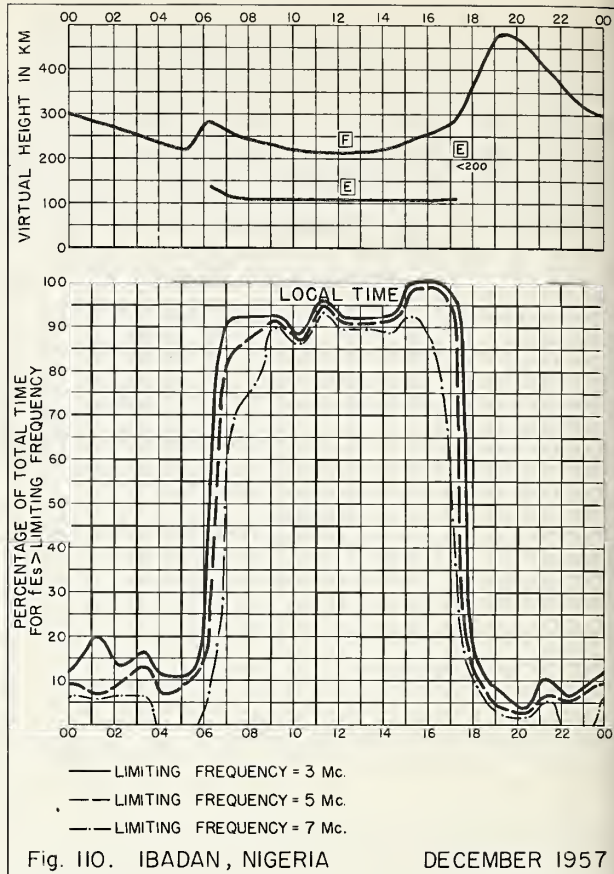
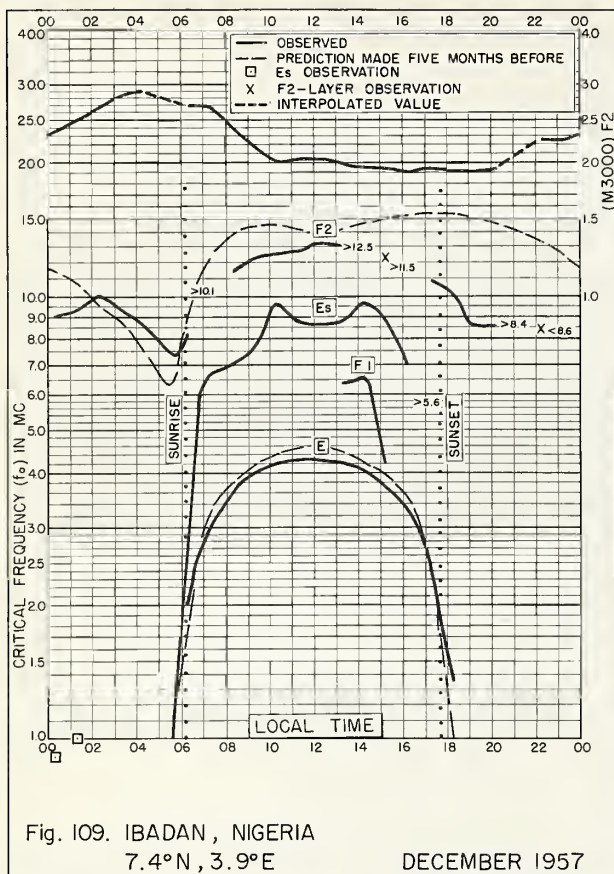


Fig. 108. ROME, ITALY

DECEMBER 1957







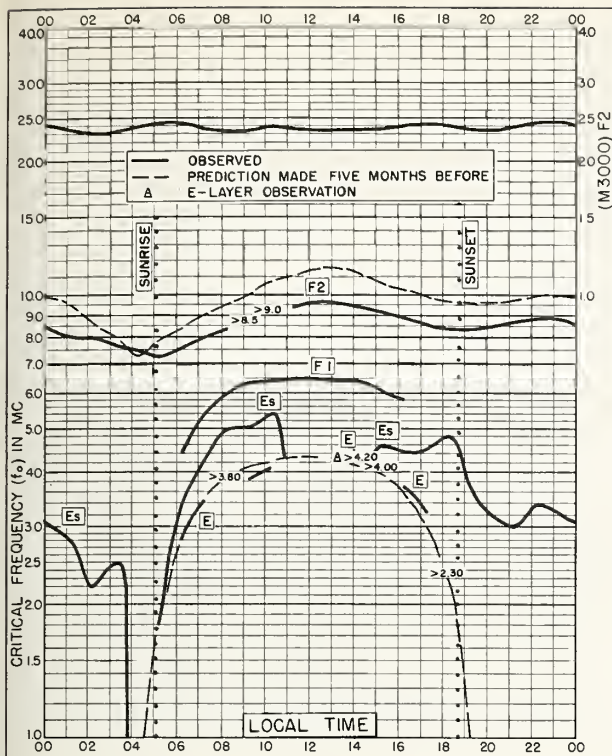


Fig. 113. BRISBANE, AUSTRALIA  
27.5°S, 152.9°E  
DECEMBER 1957

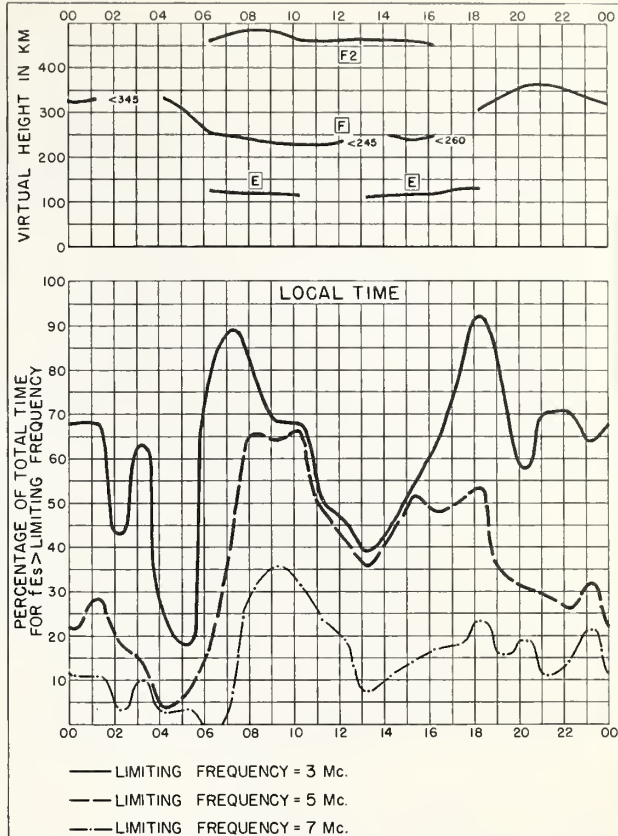


Fig. 114. BRISBANE, AUSTRALIA  
DECEMBER 1957

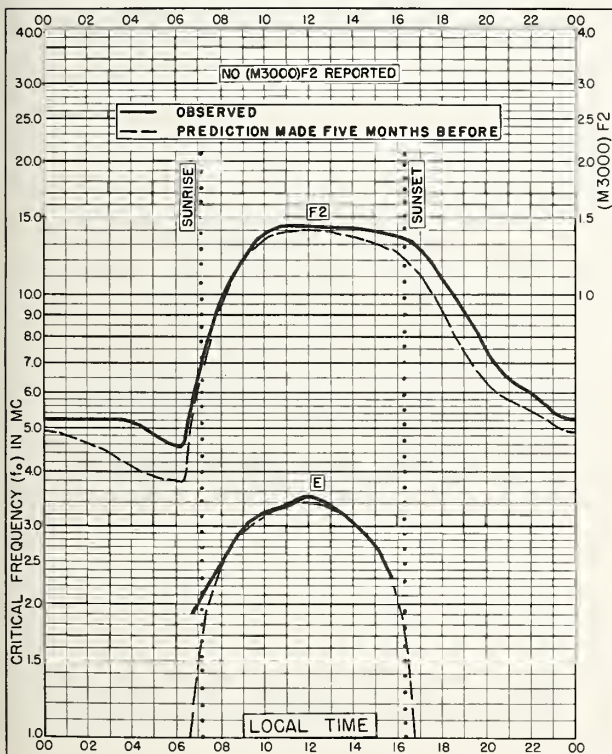


Fig. 115. VICTORIA, CANADA  
48.4°N, 123.4°W  
NOVEMBER 1957

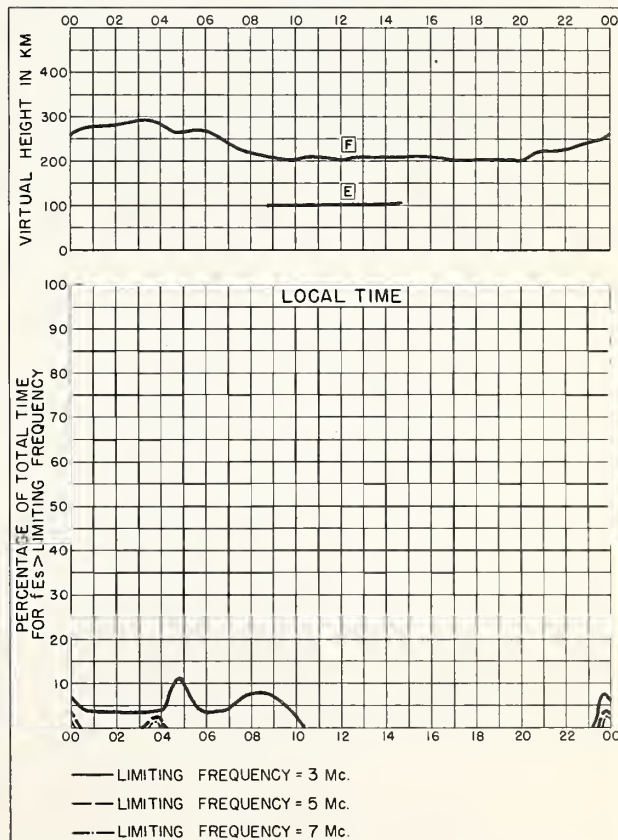
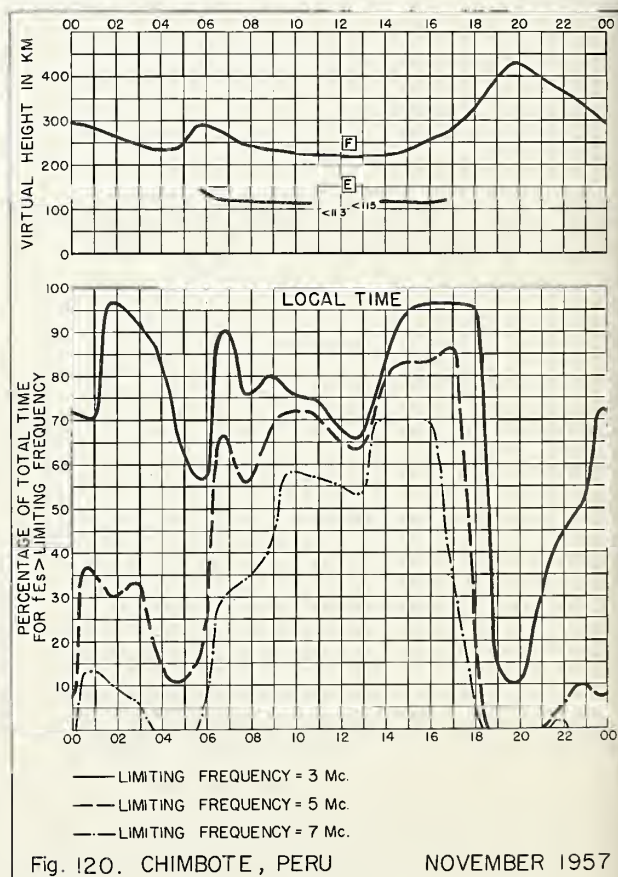
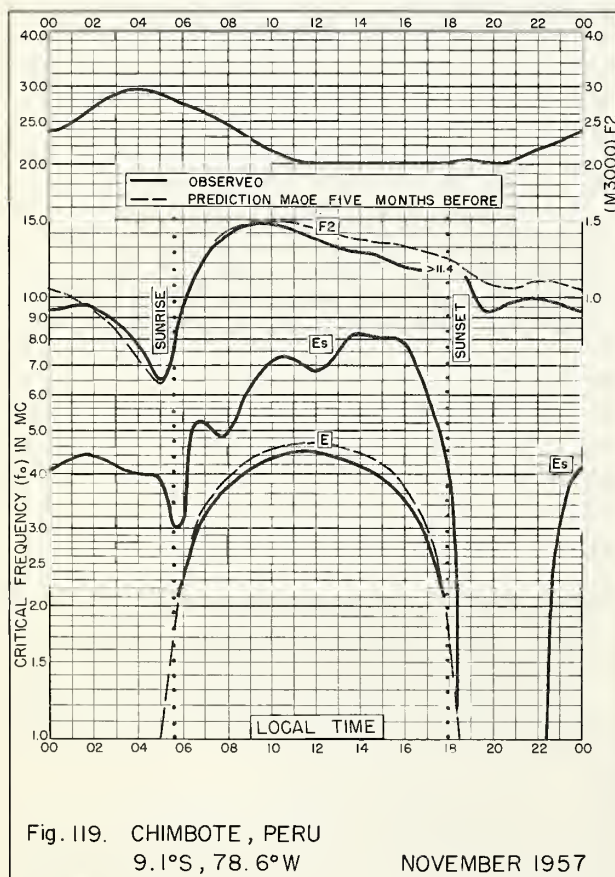
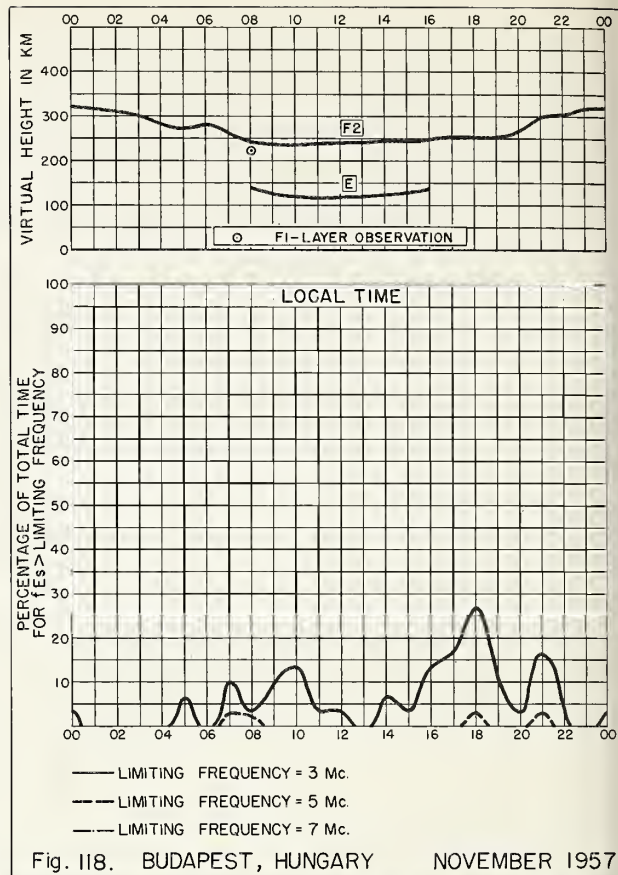
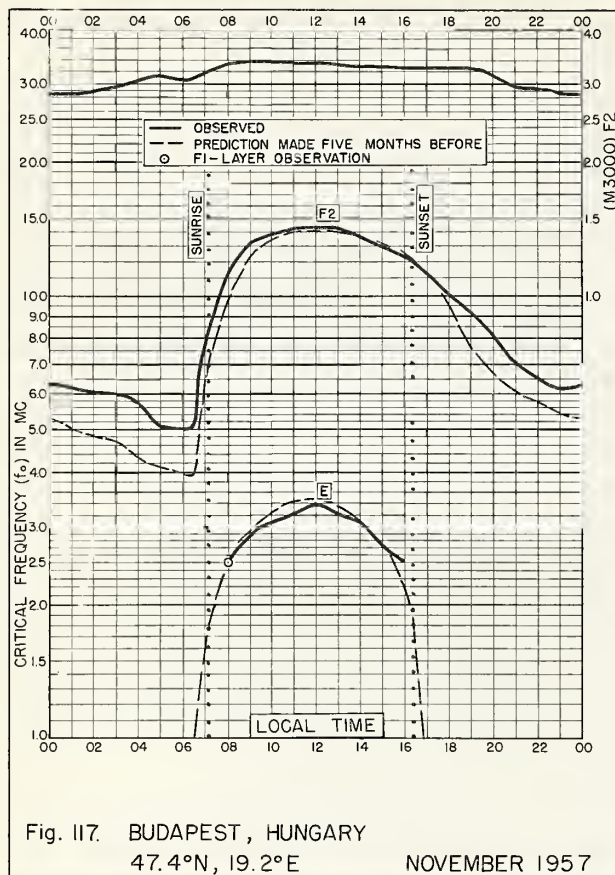


Fig. 116. VICTORIA, CANADA  
NOVEMBER 1957





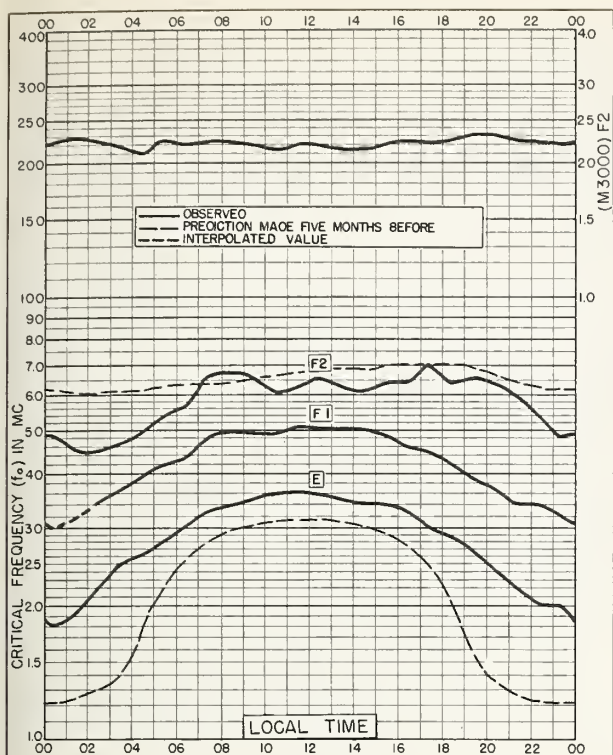


Fig. 121. CAPE HALLETT  
72.3°S, 170.3°E

NOVEMBER 1957

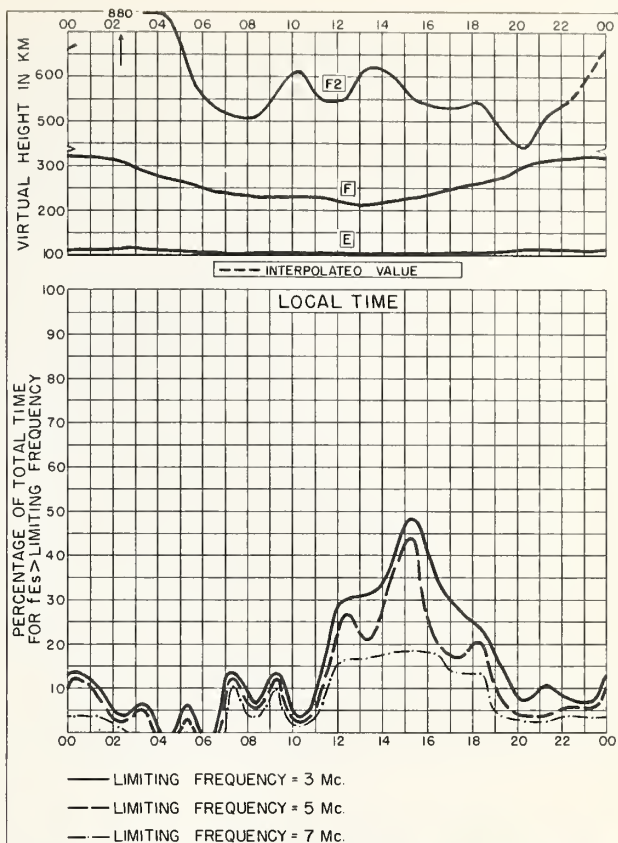


Fig. 122. CAPE HALLETT

NOVEMBER 1957

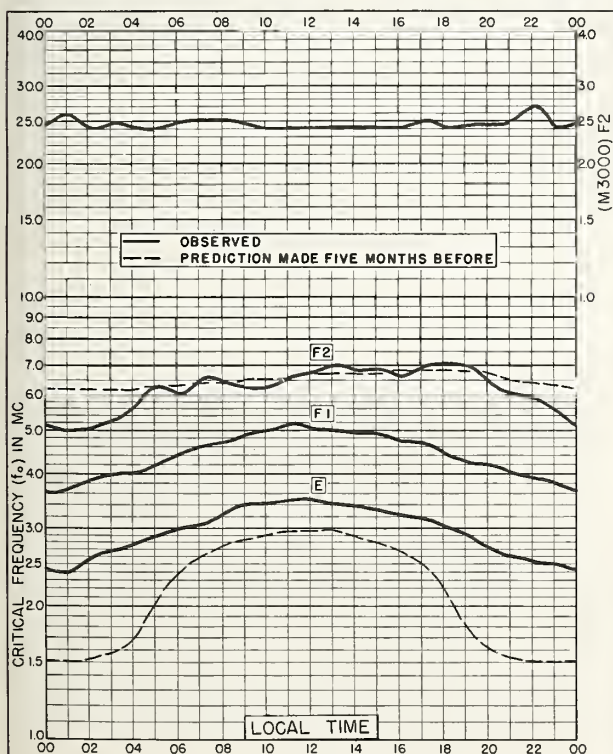


Fig. 123. SCOTT BASE  
77.8°S, 166.8°E

NOVEMBER 1957

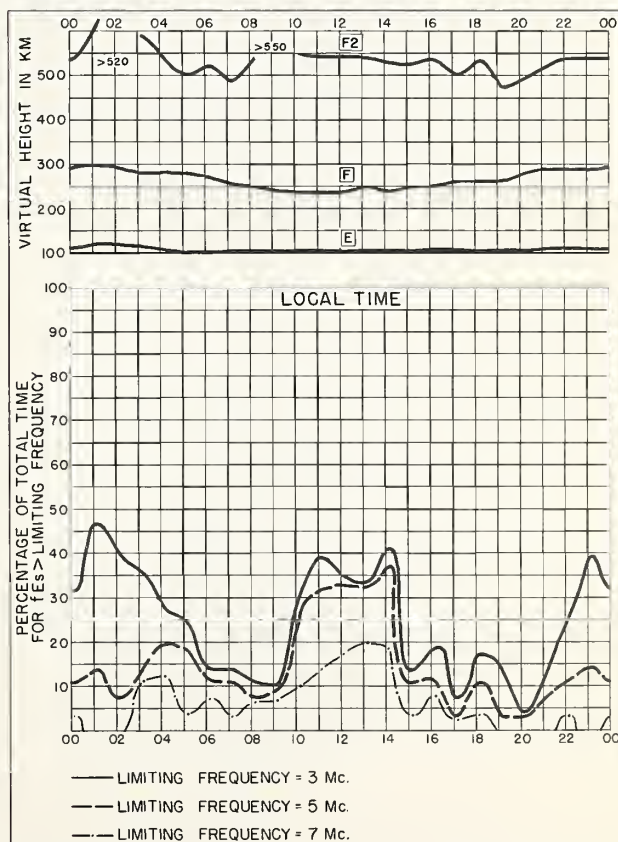


Fig. 124. SCOTT BASE

NOVEMBER 1957



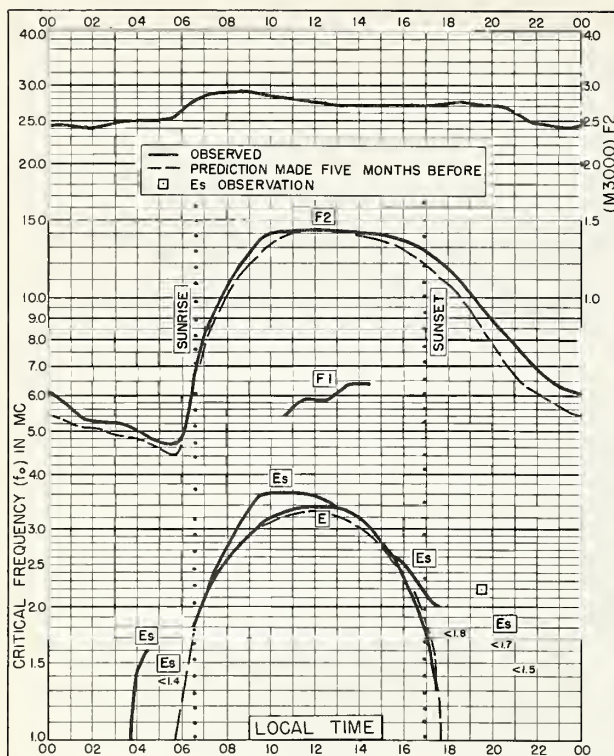


Fig. 125. MOSCOW, U.S.S.R.  
55.5°N, 37.3°E

OCTOBER 1957

Commercial Standard, Boulder, Colo.

NBS 503

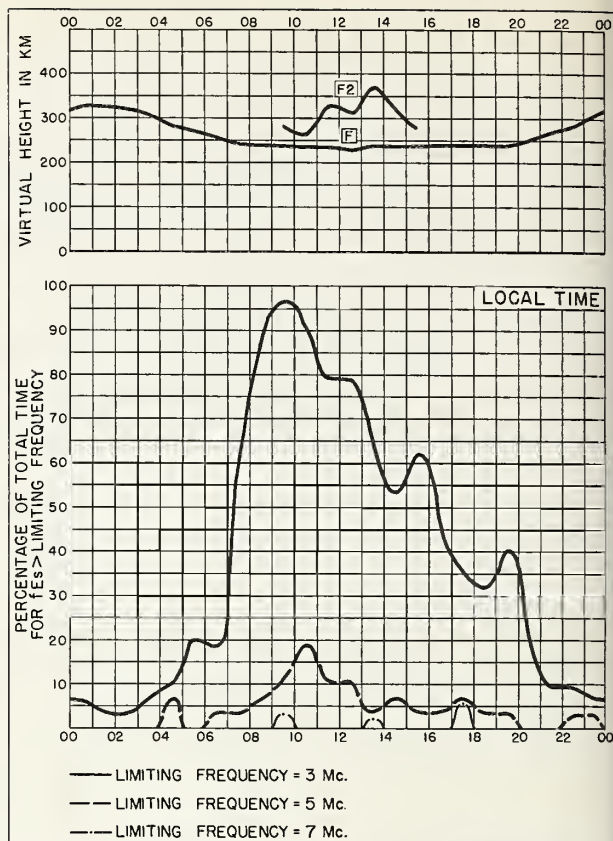


Fig. 126. MOSCOW, U.S.S.R.

OCTOBER 1957

NBS 490

Commercial Standard, Boulder, Colo.

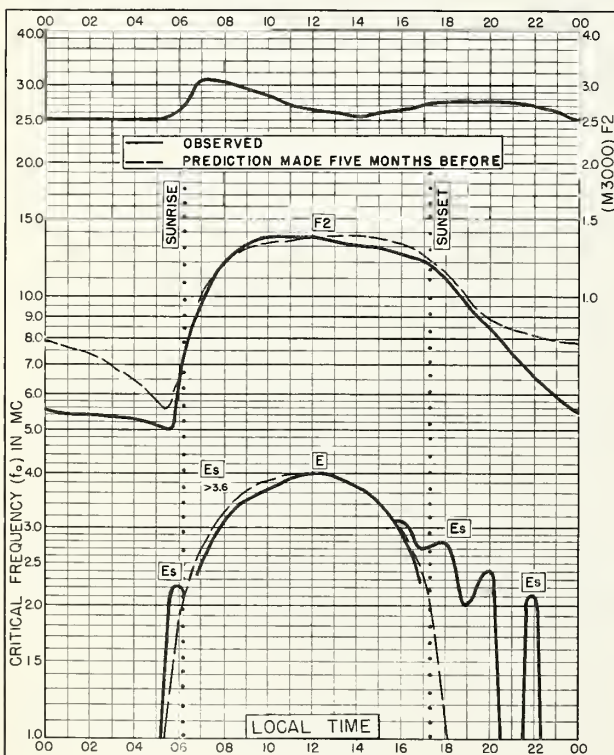


Fig. 127. SAN FRANCISCO, CALIFORNIA  
37.4°N, 122.2°W

OCTOBER 1957

Commercial Standard, Boulder, Colo.

NBS 503

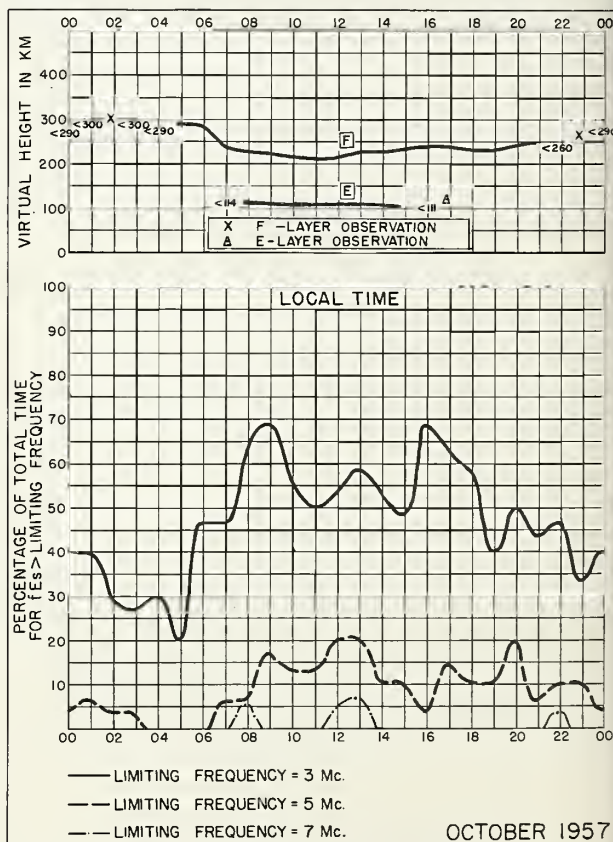


Fig. 128. SAN FRANCISCO, CALIFORNIA

OCTOBER 1957

NBS 490

Commercial Standard, Boulder, Colo.

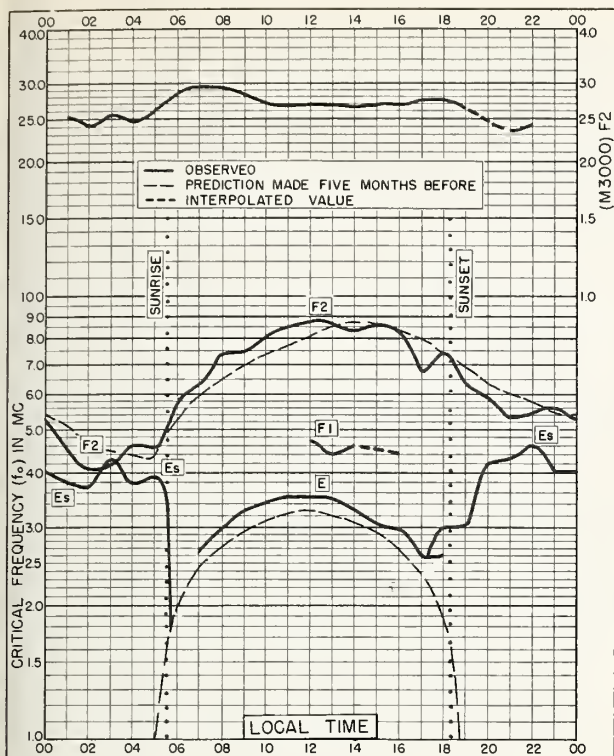


Fig. 129. NARSARSSUAK, GREENLAND  
61.2°N, 45.4°W SEPTEMBER 1957

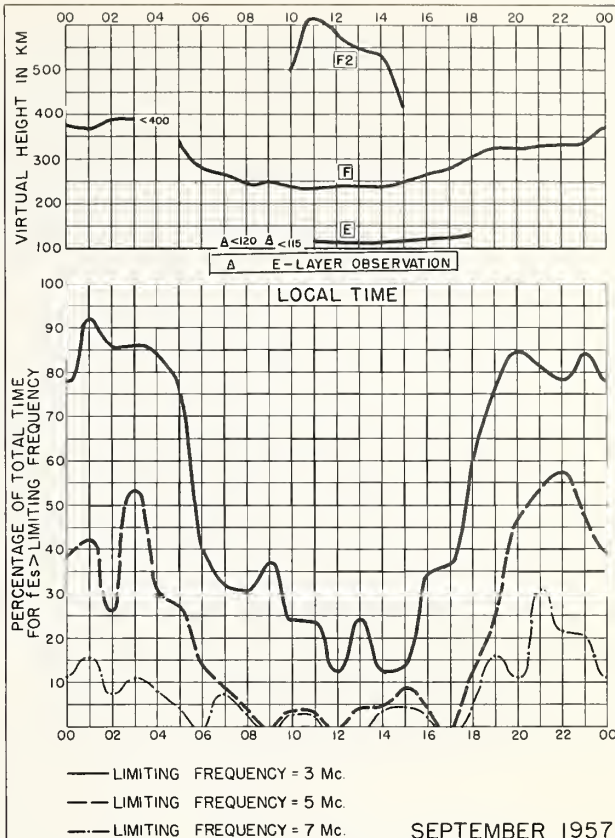


Fig. 130. NARSARSSUAK, GREENLAND

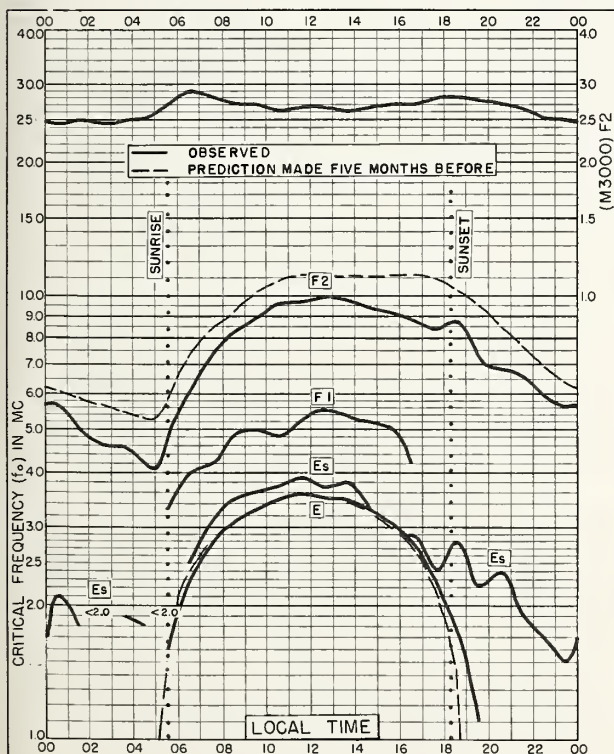


Fig. 131. MOSCOW, U.S.S.R.  
55.5°N, 37.3°E SEPTEMBER 1957

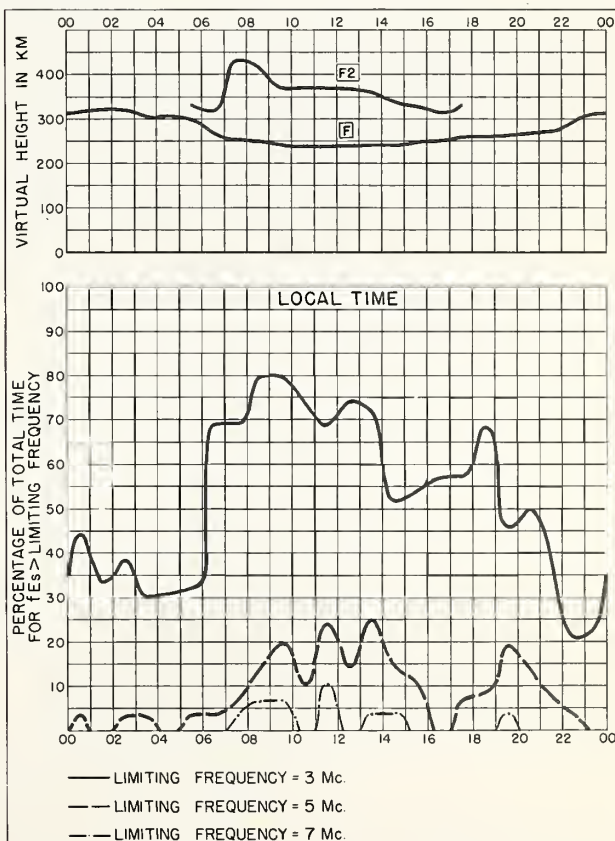


Fig. 132. MOSCOW, U.S.S.R. SEPTEMBER 1957



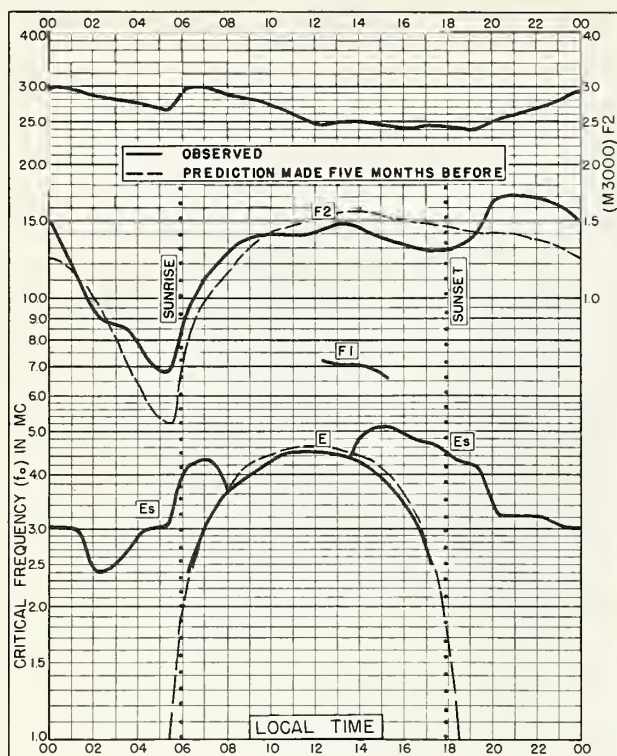


Fig. 133. PARAMARIBO, SURINAM  
5.8°N, 55.2°W SEPTEMBER 1957

NBS 503

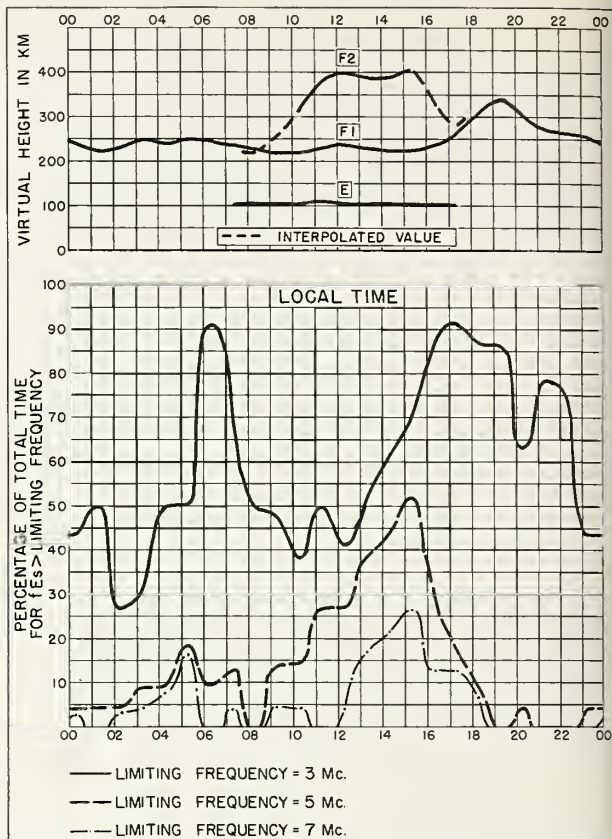


Fig. 134. PARAMARIBO, SURINAM SEPTEMBER 1957

NBS 490

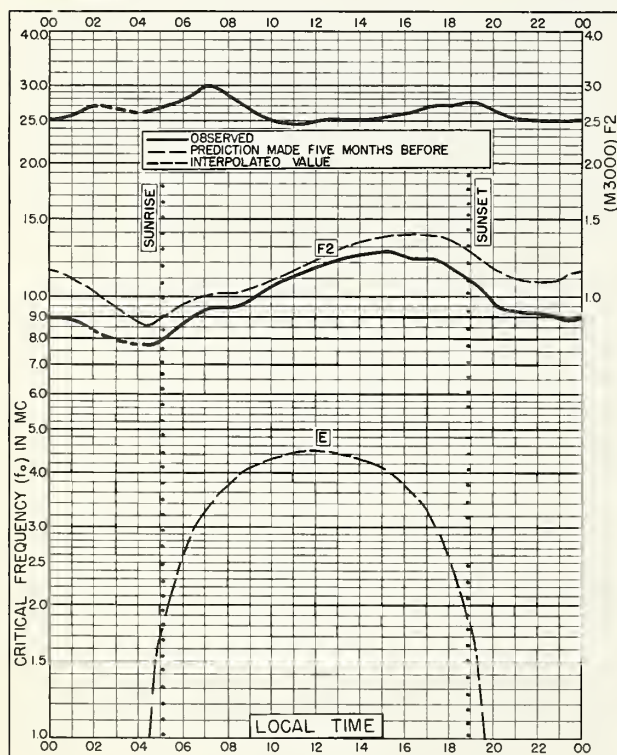


Fig. 135. DELHI, INDIA  
28.6°N, 77.1°E JUNE 1957

NBS 503

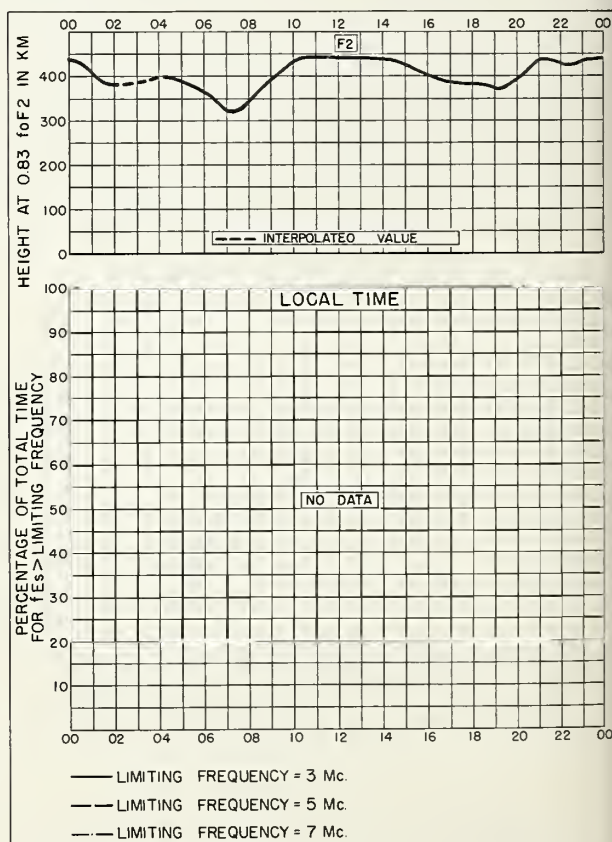


Fig. 136. DELHI, INDIA JUNE 1957

NBS 490

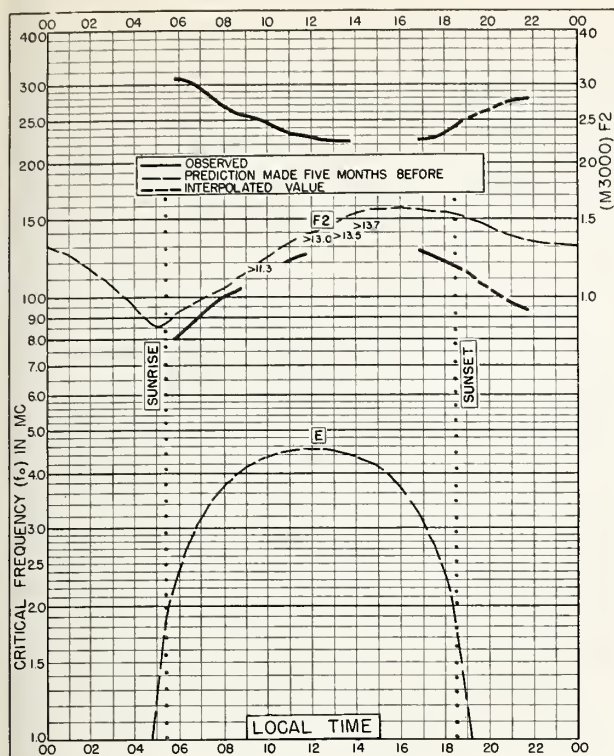


Fig. 137. BOMBAY, INDIA  
19.0°N, 73.0°E

JUNE 1957

NBS 503

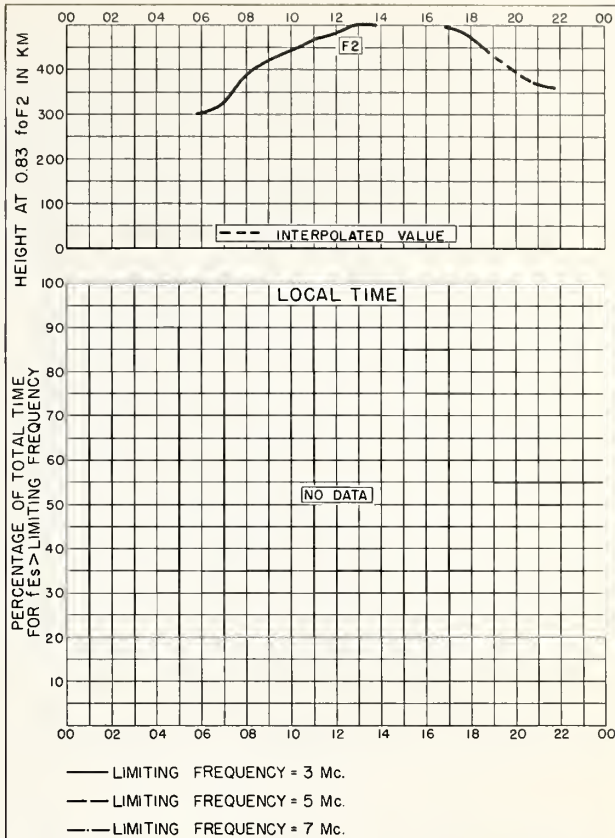


Fig. 138. BOMBAY, INDIA

JUNE 1957

NBS 490

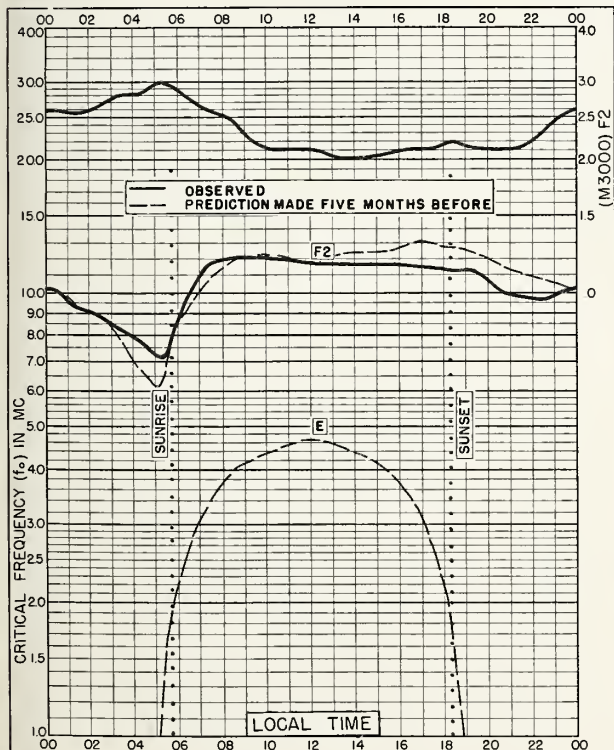


Fig. 139. TIRUCHY, INDIA  
10.8°N, 78.8°E

JUNE 1957

NBS 503

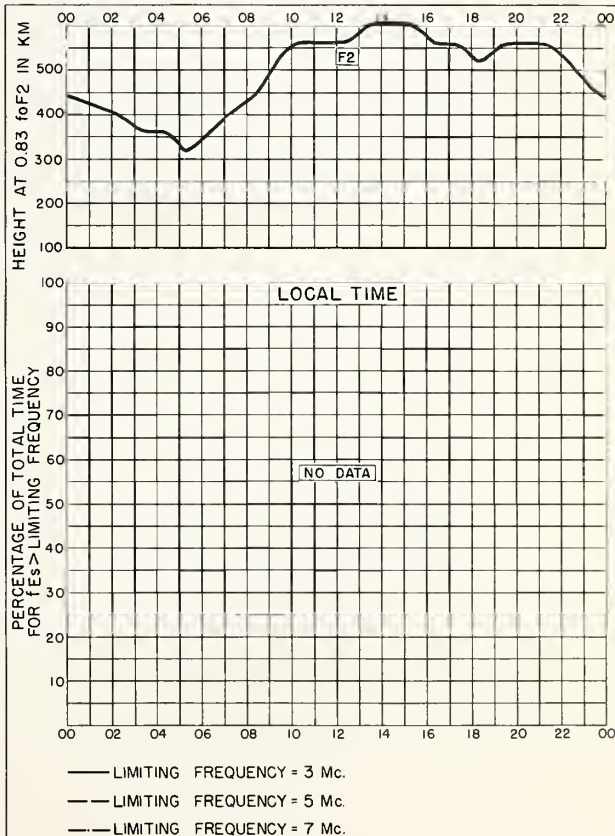
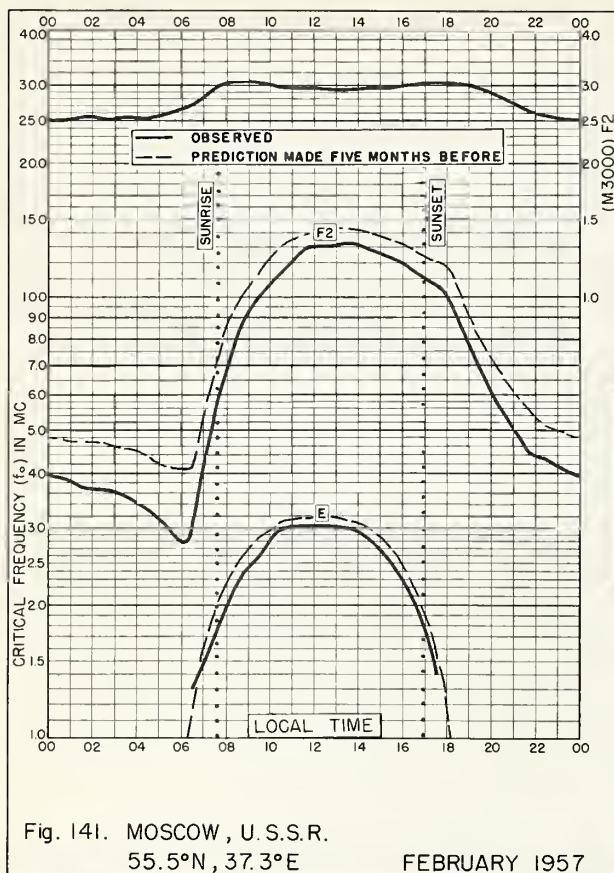


Fig. 140. TIRUCHY, INDIA

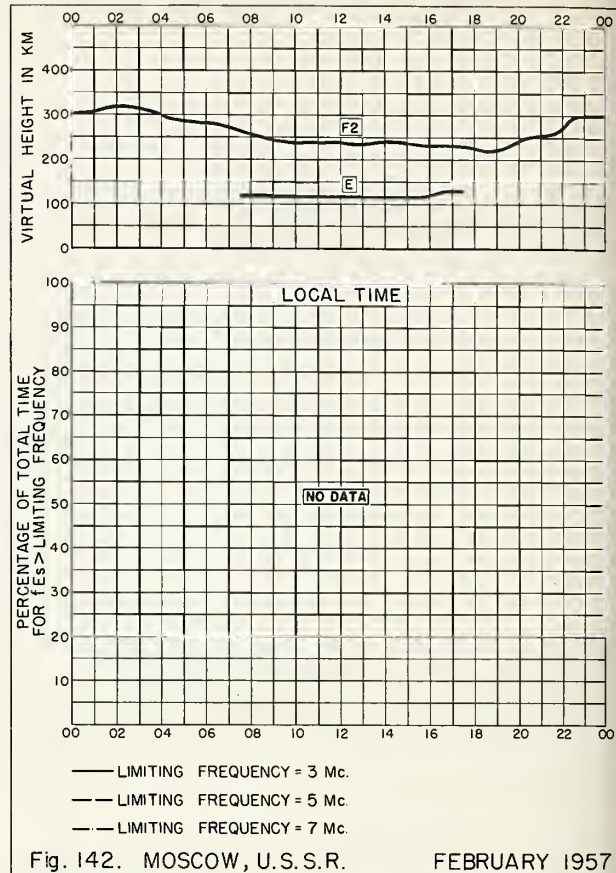
JUNE 1957

NBS 490

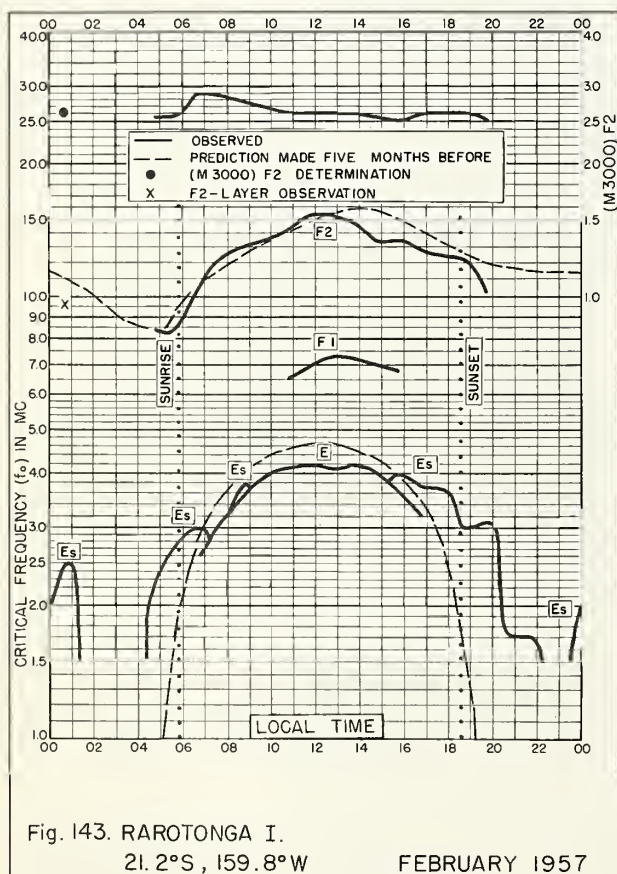




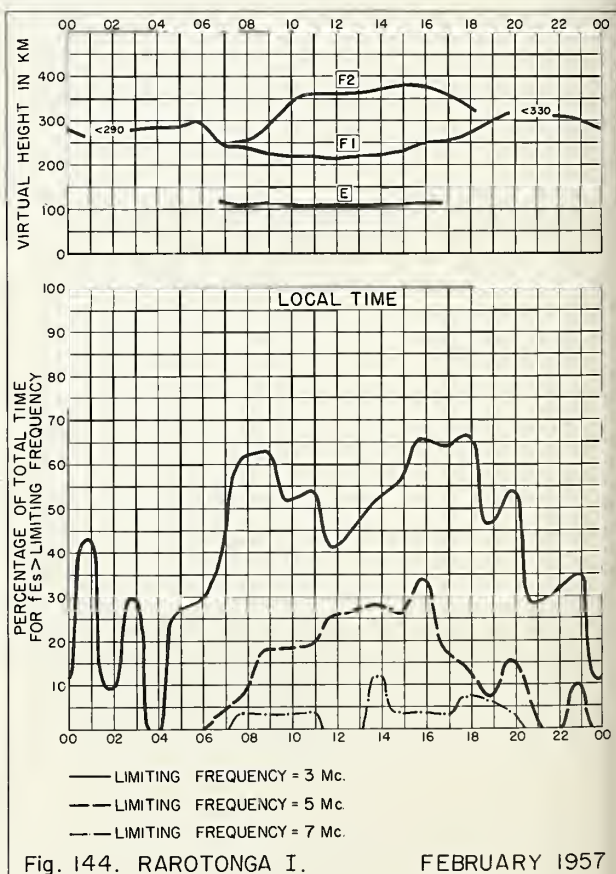
NBS 503



NBS 490



NBS 503



NBS 490

Index of Tables and Graphs of Ionospheric Data

in CRPL-F169 (Part A)

	<u>Table page</u>	<u>Figure page</u>
Adak, Alaska		
May 1958. . . . .	2	16
Anchorage, Alaska		
May 1958. . . . .	1	15
Baguio, P. I.		
May 1958. . . . .	3	19
Bombay, India		
June 1957 . . . . .	12	47
Brisbane, Australia		
February 1958 . . . . .	7	31
January 1958. . . . .	9	37
December 1957 . . . . .	10	41
Budapest, Hungary		
December 1957 . . . . .	9	39
November 1957 . . . . .	10	42
Bunia, Belgian Congo		
January 1958. . . . .	8	35
Canberra, Australia		
March 1958. . . . .	5	26
February 1958 . . . . .	7	33
January 1958. . . . .	9	37
Cape Hallett		
November 1957 . . . . .	11	43
Capetown, Union of S. Africa		
February 1958 . . . . .	7	32
Chiclayo, Peru		
March 1958. . . . .	5	26
February 1958 . . . . .	6	30
January 1958. . . . .	8	35
Chimbote, Peru		
December 1957 . . . . .	10	40
November 1957 . . . . .	10	42
Churchill, Canada		
March 1958. . . . .	4	23
De Bilt, Holland		
February 1958 . . . . .	6	28
Delhi, India		
June 1957 . . . . .	12	46
Elisabethville, Belgian Congo		
February 1958 . . . . .	6	30
January 1958. . . . .	8	36
Fairbanks, Alaska		
May 1958. . . . .	1	14



Index (CRPL-F169 (Part A), continued)

	<u>Table page</u>	<u>Figure page</u>
Falkland Is.		
February 1958 . . . . .	8	34
January 1958. . . . .	9	38
Fletchers Ice I.		
April 1958. . . . .	3	20
Formosa, China		
March 1958. . . . .	5	25
February 1958 . . . . .	6	29
Ft. Monmouth, New Jersey		
May 1958. . . . .	2	17
April 1958. . . . .	3	21
Grand Bahama I.		
March 1958. . . . .	5	25
Hobart, Tasmania		
March 1958. . . . .	5	27
February 1958 . . . . .	7	33
Huancayo, Peru		
May 1958. . . . .	3	20
April 1958. . . . .	4	22
Ibadan, Nigeria		
December 1957 . . . . .	10	40
Johannesburg, Union of S. Africa		
February 1958 . . . . .	7	31
Kiruna, Sweden		
March 1958. . . . .	4	22
Leopoldville, Belgian Congo		
February 1958 . . . . .	6	29
Maui, Hawaii		
June 1958 . . . . .	1	13
Moscow, U.S.S.R.		
February 1958 . . . . .	5	27
October 1957. . . . .	11	44
September 1957. . . . .	11	45
February 1957 . . . . .	12	48
Narsarssuak, Greenland		
May 1958. . . . .	1	15
September 1957. . . . .	11	45
Okinawa I.		
May 1958. . . . .	2	18
Panama Canal Zone		
May 1958. . . . .	3	19
Paramaribo, Surinam		
September 1957. . . . .	12	46
Point Barrow, Alaska		
May 1958. . . . .	1	14

Index (CRPL-F169 (Part A), concluded)

	<u>Table page</u>	<u>Figure page</u>
Puerto Rico, W. I.		
May 1958. . . . .	2	18
April 1958. . . . .	3	21
Rarotonga I.		
February 1957 . . . . .	12	48
Rome, Italy		
December 1957 . . . . .	9	39
St. John's, Newfoundland		
May 1958. . . . .	2	16
San Francisco, California		
January 1958. . . . .	8	34
October 1957. . . . .	11	44
Schwarzenburg, Switzerland		
March 1958. . . . .	4	24
Scott Base		
November 1957 . . . . .	11	43
Slough, England		
March 1958. . . . .	4	24
December 1957 . . . . .	9	38
Tiruchy, India		
June 1957 . . . . .	12	47
Tokyo, Japan		
February 1958 . . . . .	6	28
Townsville, Australia		
January 1958. . . . .	8	36
Upsala, Sweden		
March 1958. . . . .	4	23
Victoria, Canada		
November 1957 . . . . .	10	41
Washington, D. C.		
June 1958 . . . . .	1	13
May 1958. . . . .	2	17
Watheroo, W. Australia		
February 1958 . . . . .	7	32





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[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request]

### Daily:

Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

### Semiweekly:

CRPL—J. North Atlantic Radio Propagation Forecast (of days most likely to be disturbed during following month).

CRPL—Jp. North Pacific Radio Propagation Forecast (of days most likely to be disturbed during following month).

### Semimonthly:

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

### Monthly:

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11-499-, monthly supplements to TM 11-499; Dept. of the Air Force, TO 31-3-28 series). On sale by Superintendent of Documents.\* Members of the Armed Forces should address cognizant military office.

CRPL—F. (Part A). Ionospheric Data.  
(Part B). Solar-Geophysical Data.

Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic or other radio propagation data.

### Catalog of Data:

A catalog of records and data on file at the U.S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

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### Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

NBS Circular 462. Ionospheric Radio Propagation. \$1.25.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions. 30 cents.

NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 Megacycles. 30 cents.

NBS Circular 582. Worldwide Occurrence of Sporadic E. \$3.25.

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